CO_2 Emission Measurement Model (Ver.1) User Manual

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The Ministry of Land, Infrastructure, Transport and Tourism
Japan Tourism Agency

https://www.mlit.go.jp/kankocho/

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Introduction

The Japan Tourism Agency is actively involved in the promotion of international conferences, as they greatly contribute to economic benefits of the region, the creation of opportunities for business innovation, and the improvement of national and city competitiveness. In order to promote the invitation of international conferences to each city, it is important for organizers, convention bureau (CB), cities and related business operators to work together to communicate the significance and attractiveness of holding conferences in Japan as a host country to the international community.

Meanwhile, in recent years, in the field of international conferences, there has been a growing trend for organizers to focus on sustainability-conscious conference management methods and sustainability initiatives of cities when selecting host cities. Globally, the ‘Glasgow Declaration on Climate Action in Tourism’ stipulates the necessity to accelerate the countermeasures against climate change in the tourism sector, with the goal of ‘net zero emissions (achievement of net zero emissions)’ by 2050.

In view of this trend, the Japan Tourism Agency found the necessity to provide a model to measure CO_2 emissions during international conferences in Japan, and has prepared the ‘CO_2 Emission Measurement Model (Ver. 1)’. Normally, CO_2 emissions should be measured for each conference using actual data (primary data). However, this model is introduced as a simple calculation tool for CO_2 emissions that even beginners can understand, and it is expected to be helpful for future reduction considerations.

By promoting efforts to operate conferences with an emphasis on sustainability, we hope to contribute to the promotion of international conferences in various regions.

Points to note (1/2)

- Things to do after downloading the CO_2 emission measurement model file
  - When you open the file after the download is complete, the macro will be blocked. Please check this link to enable the macro.

- Data-entry procedures
  - When entering data, please follow the steps in this manual. By using the appropriate method for input of each item, more accurate calculations will be available. If data to be entered is difficult to obtain, you can perform calculations per item (transport, venue, food and drink, accommodation and waste).

- This model is recommended to be used in an online environment.
  - The CO_2 emission measurement model can be used in both online and offline environments.
  - However, when calculating emissions related to the movement of people, there will be data communication with the web regarding the information entered in the input fields in the sheet described below, which is unavailable in an offline environment. Therefore, you are recommended to use the model in an online environment.
  - For how to use the model in an offline environment, please refer to the relevant sheet in the manual.

Input fields that are only available online

Sheet name	Input field
A2. International transport	• Departure airport • Arrival airport
A3. Domestic long-distance	Name of the accommodation
A4. Domestic short-distance	Name of the venue

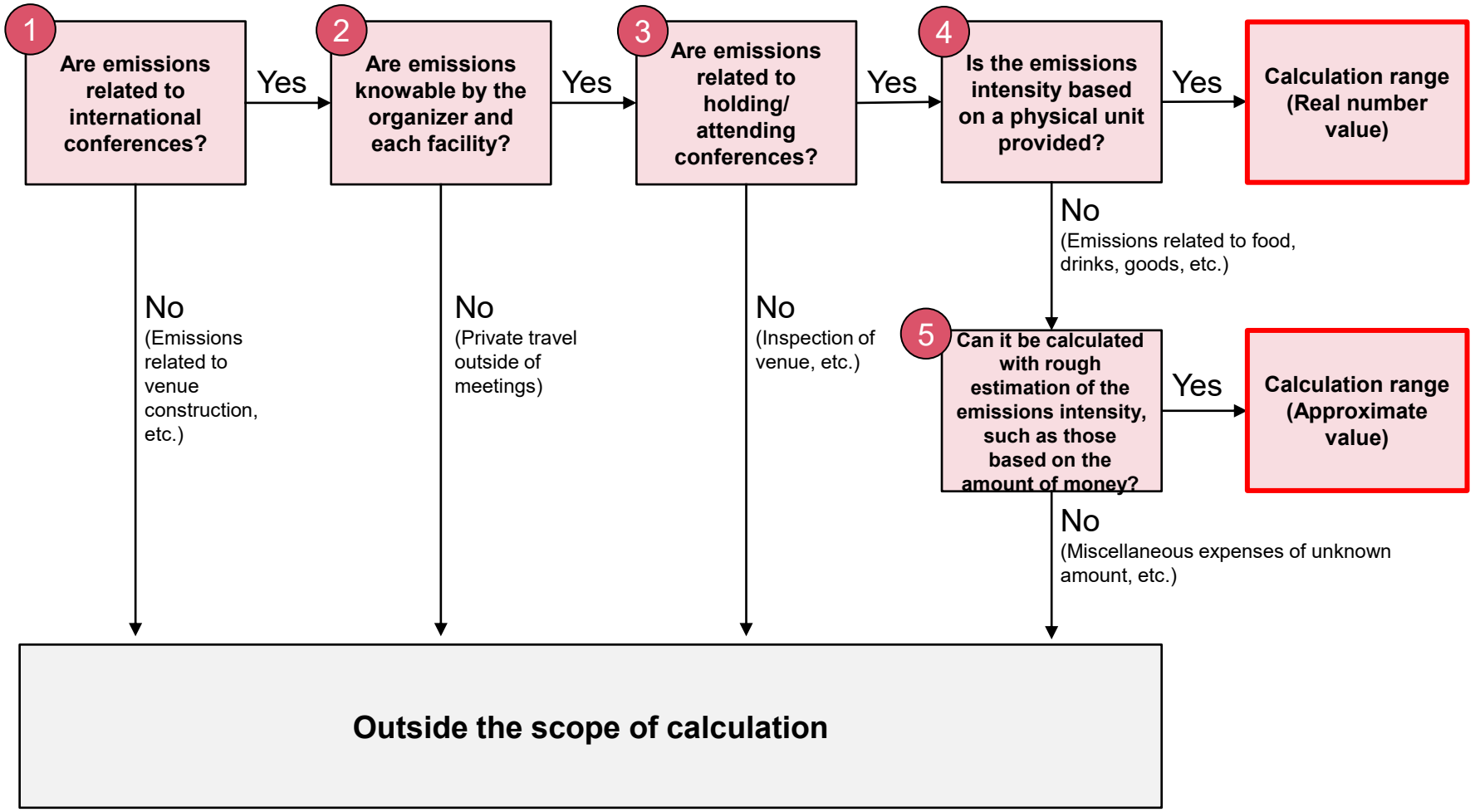
Points to note（2/2）

- Excel version
  - This model has been confirmed to work with Excel 2016 or later versions, but some functions may not be available in versions earlier than Excel 2016. For details, please check the How to Use page of this manual.

- Predetermined emission factors
  - In this model, for calculation of CO_2 emissions, emission factors are predetermined for each item to be calculated, but please note that these are average values. For more information on the emission factors, please check the source listed in the calculation basis and contact the relevant party as needed. For some items, the model allows emission factors to be entered, so please enter them where possible.

- Request for feedback
  - This CO_2 emissions measurement model has been created with both detailed calculations and ease of user input in mind, but we believe it is necessary to keep track of usage status and demands to revise the model in the future. Therefore, if you have used this CO_2 emissions measurement model, please send us your feedback on the calculation results, your concerns, and points to be improved.
  - Please send your feedback to: MICE Office, Japan Tourism Agency at hqt-jp-mice@ki.mlit.go.jp

Scope of the calculation of CO_2 emissions



List of items to be calculated

Category	Item	Sub-item
1. Transportation	Transport of people	From overseas to Japanese airport
		To the place of accommodation
		From where one resides to the venue
	Transport of goods by freight	
2. Venue	Venue	Electricity
		Gas
		Estimate based on area used
	Purchased goods	Printing paper
		Printing & bookbinding（outsourcing)
		Construction paper, etc.
		Stationery
3. Food and beverages	Food	
	Consumption of drinks (tea/coffee) that is taken outside of mealtimes	
	Consumption of drinks (water) that is taken outside of mealtimes	
4. Accommodation		
5. Waste	Papers	
	Plastics	
	PET bottles	
	Total amount of wastes	

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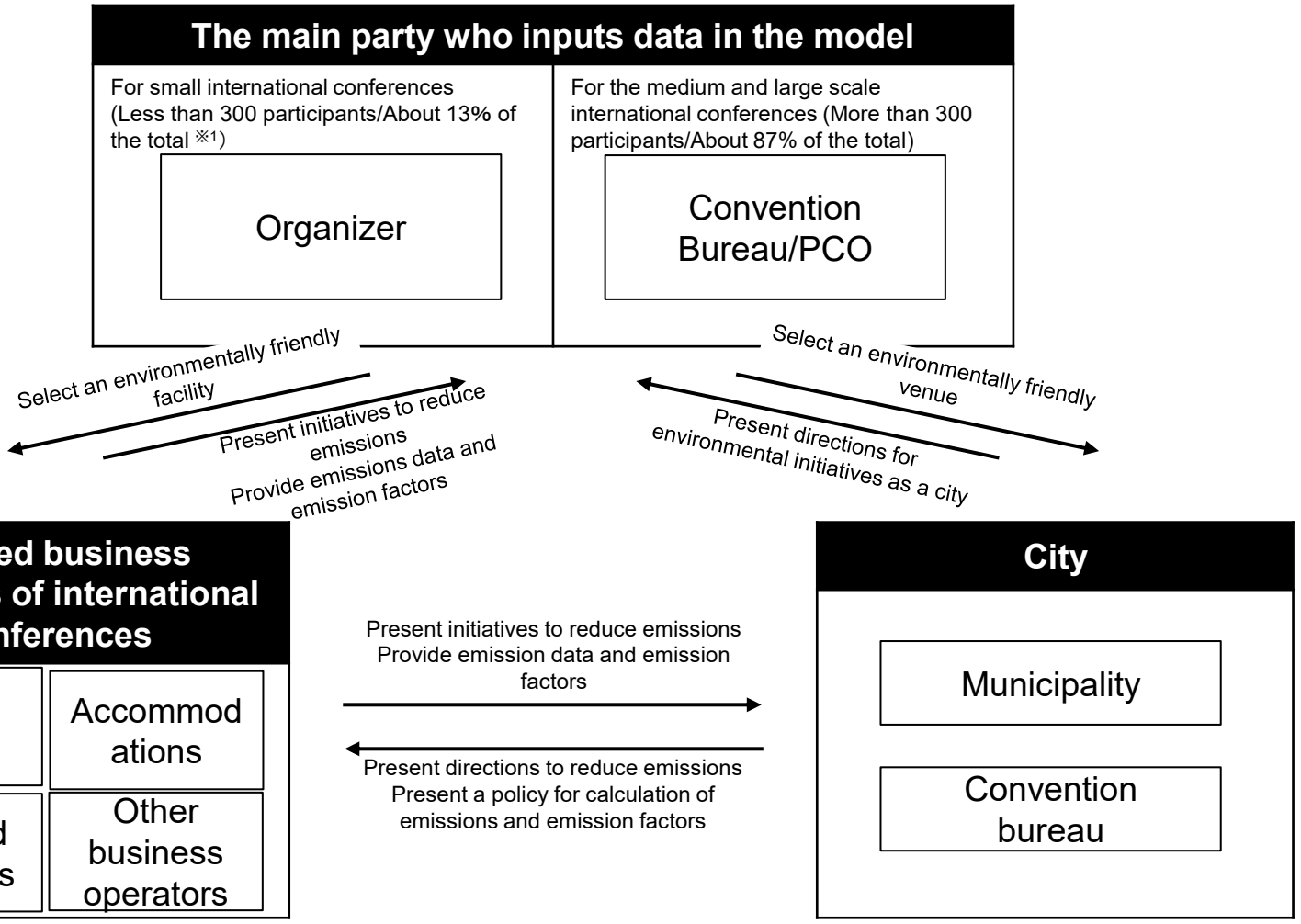
Potential usage scenarios of CO_2 Emission Measurement Model

Why		Who	When	Whether or not to use the model
1	**To attract international conferences**	Organizer (Japan office) CB	Before the event	By keeping track of CO_2 emissions generated from the conference and through efforts to reduce CO_2 emissions, the organizer can send a message about a high level of awareness of sustainability through 'Bid Paper' etc.
2	**To select the venue**	Organizer (International HQ)	Before the event	For selection of host countries and cities, the organizer can use CO_2 measurement models of candidate cities to predict emissions.
3	**To publicize sustainability**	Organizer (Japan office/ International HQ) CB	After the event	By taking environmental initiatives (efforts to reduce CO_2 emissions, implementing offsets, etc.) and measuring CO_2 emissions after the conference, the organizer can externally promote its initiatives.
4	**To provide better services**	Convention Bureau/PCO etc.	Same as the above	It is highly likely that the organizer alone will not be able to gather the data necessary for measurement. By providing 'measurement services' using this model, the convention bureau/PCO will be able to promote the efforts of the organizer.

Example of Model inputs and Cooperation with various stakeholders for reduction of CO_2 emissions



※1：Source) JNTO International Meetings Statistics Report 2019

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Input items and calculation process

Item				Item to enter		CO_2 emission factor	Source
1. Transport	Transport of people	From overseas to Japanese airport	=	Transport distance x (No. of persons - No. of persons offset) x2	×	0.083 $kgCO_2$/pkm	Ministry of the Environment (MOE)
		To accommodation	=	Transport distance x No. of persons x 2 x (Usage percentage of each transport method)	×	Emission factor for each transportation method	Ministry of Land, Infrastructure, Transport and Tourism (MLIT) and MOE
		From prefecture to venue	=	Transport distance x No. of persons x 2 x Conference duration in days x (Usage percentage of each transport method)	×	Emission factor for each transportation method	
	Transport of goods by freight		=	Total (JPY)	×	0.00177 $kgCO_2$/JPY	National Institute for Environmental Studies (NIES)
2. Venue	Venue	Electricity	=	Total usage (kWh) x (1 - offset rate)	×	To be input by user or 0.441 $kgCO_2$/kWh	MOE
		Gas	=	Total usage (Nm^3)	×	To be input by user or 2.23 $kgCO_2/Nm^3$	
		Estimate based on area used	=	Total area (m^2) x Conference duration in days	×	0.23 $kgCO_2$/day/m^2	
		Total emissions	=	Total emissions input by user (tCO_2)			-
	Purchased goods	Printing paper	=	Total (JPY)	×	0.01059 $kgCO_2$/JPY	National Institute for Environmental Studies (NIES)
		Printing & bookbinding (outsourcing)	=	Total (JPY)	×	0.00300 $kgCO_2$/JPY	
		Poster paper for construction, etc.	=	Total (JPY)	×	0.01074 $kgCO_2$/JPY	
		Stationery	=	Total (JPY)	×	0.00221 $kgCO_2$/JPY	
3. Meals	Meals		=	(Breakfast cost/person/day x No. of breakfast orders + Lunch cost/person/day x No. of lunch orders + Dinner cost/person/day x No. of dinner orders) x Duration of conference in days	×	0.00218 $kgCO_2$/JPY	
	Drinks outside of mealtimes (tea, coffee)		=	(Cost/person/day) x No. of persons x Duration of conference in days	×	0.00289 $kgCO_2$/JPY	
			=	(Consumed amount/person/day) x No. of persons x Duration of conference in days	×	0.434 $kgCO_2$/L	Ministry of Internal Affairs and Communications (MIC)
	Drinks outside of mealtimes (water)		=	(Cost/person/day) x No. of persons x Duration of conference in days	×	0.00265 $kgCO_2$/JPY	NIES
			=	(Consumed amount/person/day) x No. of persons x Duration of conference in days	×	0.150 $kgCO_2$/L	MIC
4. Accommodation			=	Total no. of guests x Duration of conference in days	×	To be input by user or 35.1 $kgCO_2$/night	NIES/MLIT
			=	Total emissions input by user (tCO_2)			-
5. Waste	Paper waste		=	Waste amount (kg)	×	0.144 $kgCO_2$/kg	NIES
	Plastic waste		=	Waste amount (kg)	×	0.2816 $kgCO_2$/kg	
	PET bottle waste		=	Waste amount (kg)	×	0.2277 $kgCO_2$/kg	
	Overall		=	Total (JPY)	×	0.00352 $kgCO_2$/JPY	

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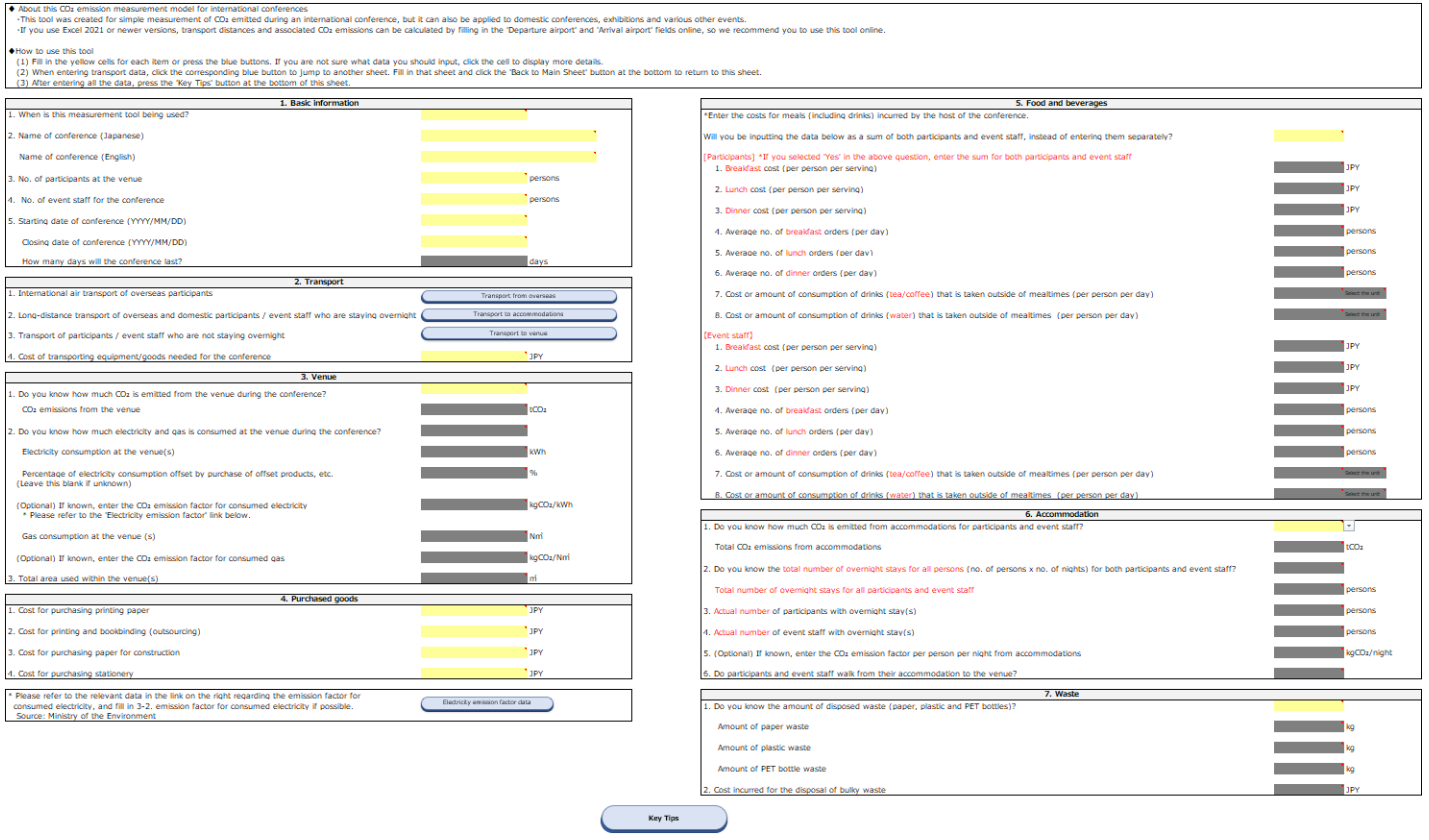
Main Sheet

- When you open the Excel file for this model, you will see the following main sheet.
- Please complete this sheet according to the User Manual.



◆ About this CO_2 emission measurement model for international conferences
·This tool was created for simple measurement of CO_2 emitted during an international conference, but it can also be applied to domestic conferences, exhibitions and various other events.
·If you use Excel 2021 or newer versions, transport distances and associated CO_2 emissions can be calculated by filling in the 'Departure airport' and 'Arrival airport' fields online, so we recommend you to use this tool online.

◆How to use this tool
(1) Fill in the yellow cells for each item or press the blue buttons. If you are not sure what data you should input, click the cell to display more details.
(2) When entering transport data, click the corresponding blue button to jump to another sheet. Fill in that sheet and click the 'Back to Main Sheet' button at the bottom to return to this sheet.
(3) After entering all the data, press the 'Key Tips' button at the bottom of this sheet.

1. Basic information
1. When is this measurement tool being used?
2. Name of conference (Japanese)
Name of conference (English)
3. No. of participants at the venue — persons
4. No. of event staff for the conference — persons
5. Starting date of conference (YYYY/MM/DD)
Closing date of conference (YYYY/MM/DD)
How many days will the conference last? — days

2. Transport
1. International air transport of overseas participants — Transport from overseas
2. Long-distance transport of overseas and domestic participants / event staff who are staying overnight — Transport to accommodations
3. Transport of participants / event staff who are not staying overnight — Transport to venue
4. Cost of transporting equipment/goods needed for the conference — JPY

3. Venue
1. Do you know how much CO_2 is emitted from the venue during the conference?
CO_2 emissions from the venue — tCO_2
2. Do you know how much electricity and gas is consumed at the venue during the conference?
Electricity consumption at the venue(s) — kWh
Percentage of electricity consumption offset by purchase of offset products, etc. (Leave this blank if unknown) — %
(Optional) If known, enter the CO_2 emission factor for consumed electricity * Please refer to the 'Electricity emission factor' link below. — $kgCO_2/kWh$
Gas consumption at the venue (s) — Nm^3
(Optional) If known, enter the CO_2 emission factor for consumed gas — $kgCO_2/Nm^3$
3. Total area used within the venue(s) — m^2

4. Purchased goods
1. Cost for purchasing printing paper — JPY
2. Cost for printing and bookbinding (outsourcing) — JPY
3. Cost for purchasing paper for construction — JPY
4. Cost for purchasing stationery — JPY

* Please refer to the relevant data in the link on the right regarding the emission factor for consumed electricity, and fill in 3-2. emission factor for consumed electricity if possible.
Source: Ministry of the Environment — Electricity emission factor data

5. Food and beverages
*Enter the costs for meals (including drinks) incurred by the host of the conference.
Will you be inputting the data below as a sum of both participants and event staff, instead of entering them separately?
[Participants] *If you selected 'Yes' in the above question, enter the sum for both participants and event staff
1. Breakfast cost (per person per serving) — JPY
2. Lunch cost (per person per serving) — JPY
3. Dinner cost (per person per serving) — JPY
4. Average no. of breakfast orders (per day) — persons
5. Average no. of lunch orders (per day) — persons
6. Average no. of dinner orders (per day) — persons
7. Cost or amount of consumption of drinks (tea/coffee) that is taken outside of mealtimes (per person per day) — Select the unit
8. Cost or amount of consumption of drinks (water) that is taken outside of mealtimes (per person per day) — Select the unit
[Event staff]
1. Breakfast cost (per person per serving) — JPY
2. Lunch cost (per person per serving) — JPY
3. Dinner cost (per person per serving) — JPY
4. Average no. of breakfast orders (per day) — persons
5. Average no. of lunch orders (per day) — persons
6. Average no. of dinner orders (per day) — persons
7. Cost or amount of consumption of drinks (tea/coffee) that is taken outside of mealtimes (per person per day) — Select the unit
8. Cost or amount of consumption of drinks (water) that is taken outside of mealtimes (per person per day) — Select the unit

6. Accommodation
1. Do you know how much CO_2 is emitted from accommodations for participants and event staff?
Total CO_2 emissions from accommodations — tCO_2
2. Do you know the total number of overnight stays for all persons (no. of persons x no. of nights) for both participants and event staff?
Total number of overnight stays for all participants and event staff — persons
3. Actual number of participants with overnight stay(s) — persons
4. Actual number of event staff with overnight stay(s) — persons
5. (Optional) If known, enter the CO_2 emission factor per person per night from accommodations — $kgCO_2/night$
6. Do participants and event staff walk from their accommodation to the venue?

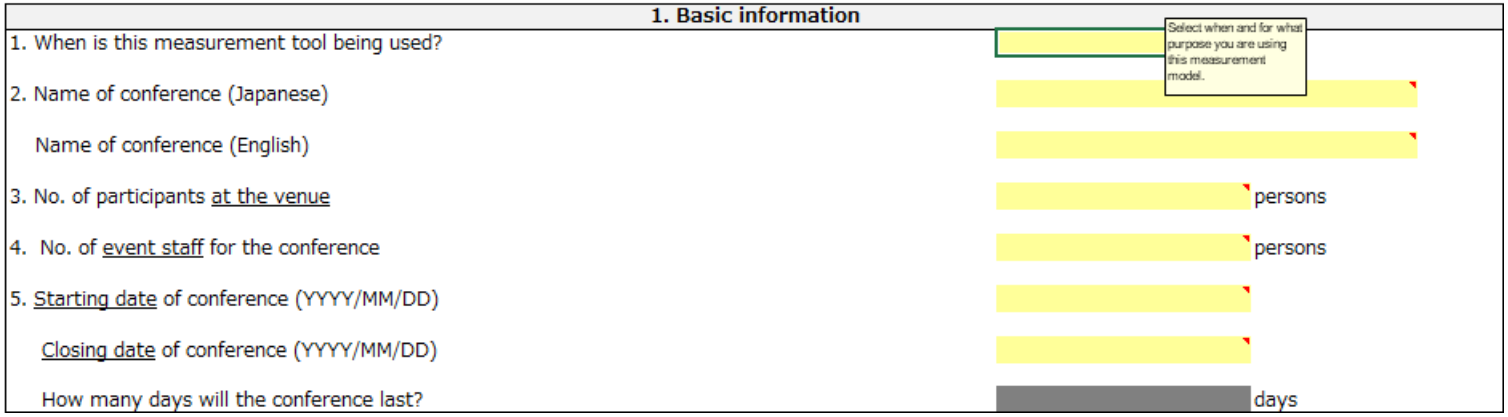
7. Waste
1. Do you know the amount of disposed waste (paper, plastic and PET bottles)?
Amount of paper waste — kg
Amount of plastic waste — kg
Amount of PET bottle waste — kg
2. Cost incurred for the disposal of bulky waste — JPY

Key Tips

Main Sheet

Enter ‘1. Basic information’

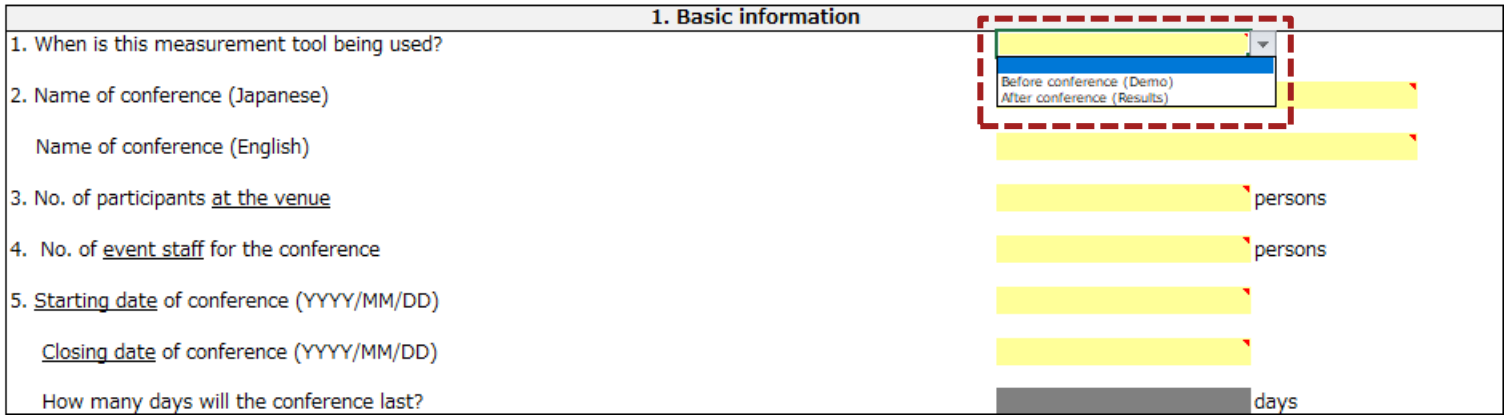
- Step 1
  - Move the mouse cursor over the yellow cells to see the comments shown.
  - Be sure to check all comments.



Main Sheet

Enter ‘1. Basic information’

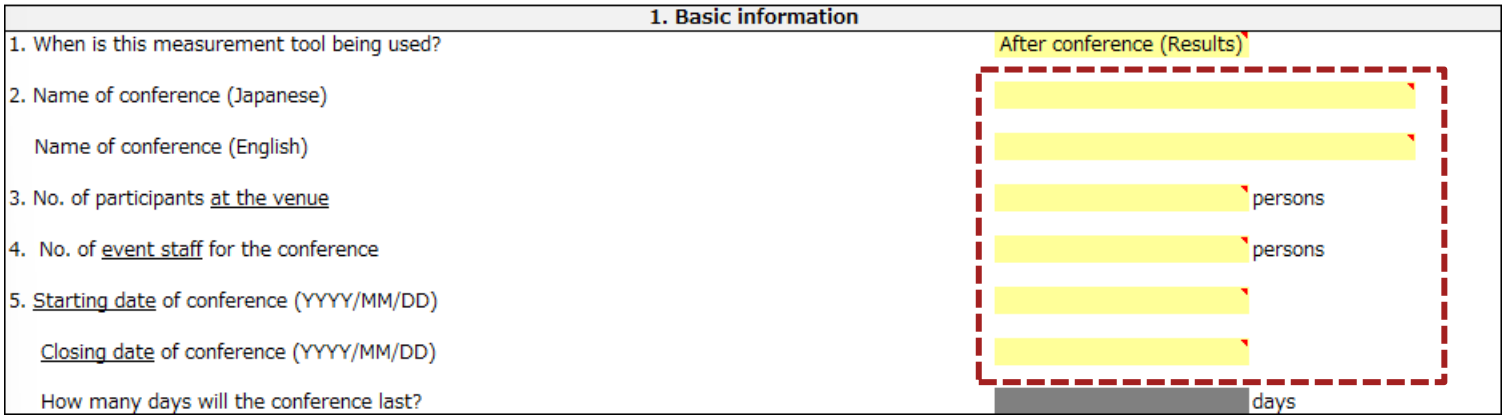
- Step 2
  - Select the yellow cell, press the pull-down, and choose your answer.



Main Sheet

Enter ‘1. Basic information’

- Step 3
  - Fill in yellow cells according to comments.
  - After entering the information, go to ‘2. Transport’.



1. Basic information	
1. When is this measurement tool being used?	After conference (Results)
2. Name of conference (Japanese)	
Name of conference (English)	
3. No. of participants at the venue	persons
4. No. of event staff for the conference	persons
5. Starting date of conference (YYYY/MM/DD)	
Closing date of conference (YYYY/MM/DD)	
How many days will the conference last?	days

Main Sheet

Enter ‘1. Basic information’

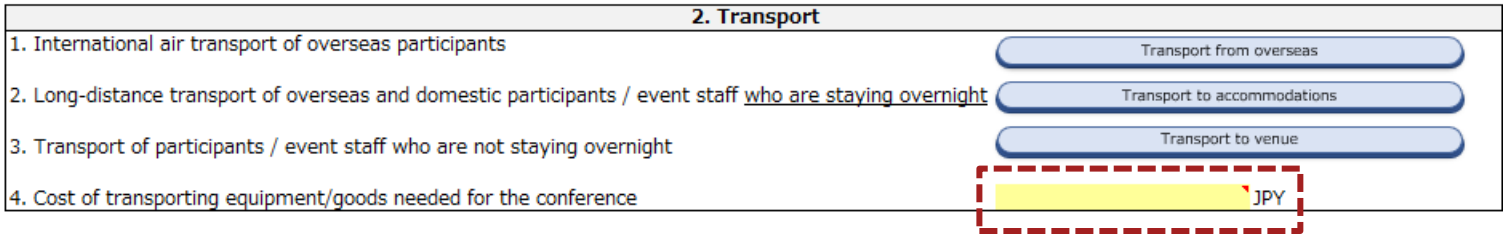
- Example of how to fill in ‘1. Basic information’

1. Basic information	
1. When is this measurement tool being used?	After conference (Results)
2. Name of conference (Japanese)	第X回 xx会議
Name of conference (English)	The Xth xx Conference
3. No. of participants at the venue	1,000 persons
4. No. of event staff for the conference	200 persons
5. Starting date of conference (YYYY/MM/DD)	2023/1/1
Closing date of conference (YYYY/MM/DD)	2023/1/3
How many days will the conference last?	3 days

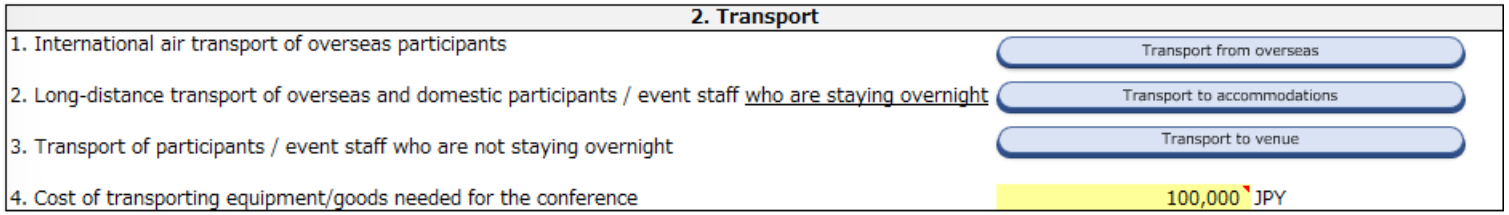
Main Sheet

Enter ‘2. Transport’

- Step 1
  - Fill in the yellow cell according to comments.
  - Do not press the blue button yet.
  - After entering the information, go to ‘3. Venue’.



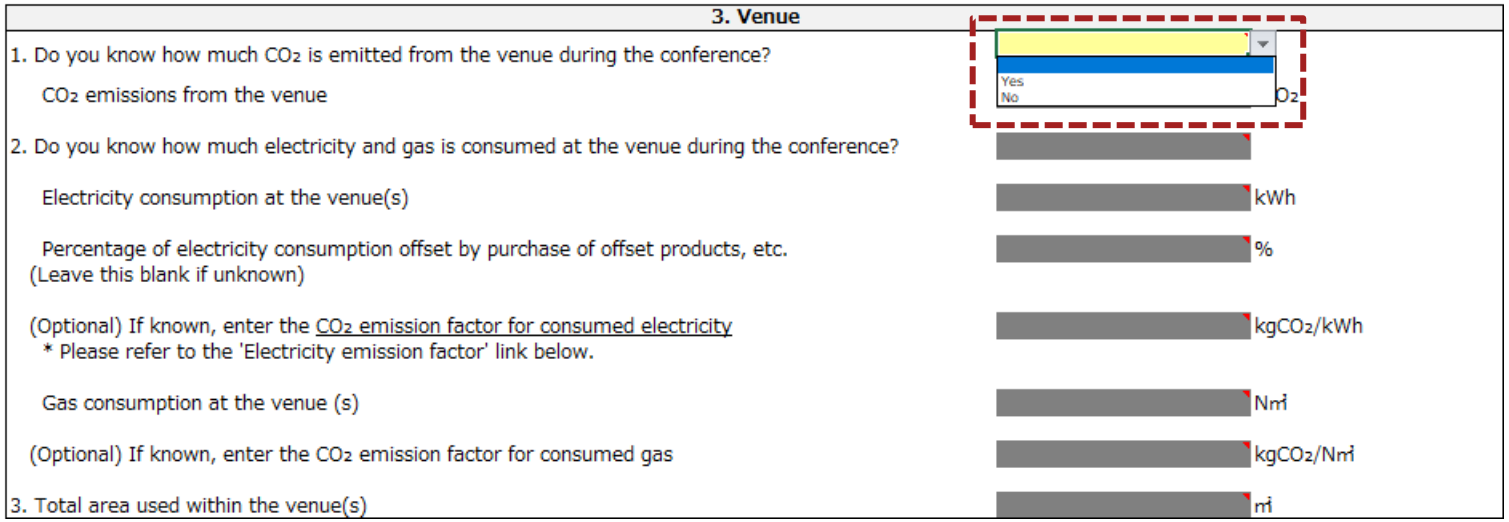
- Example of how to fill in ‘2. Transport’



Main Sheet

Enter ‘3. Venue’

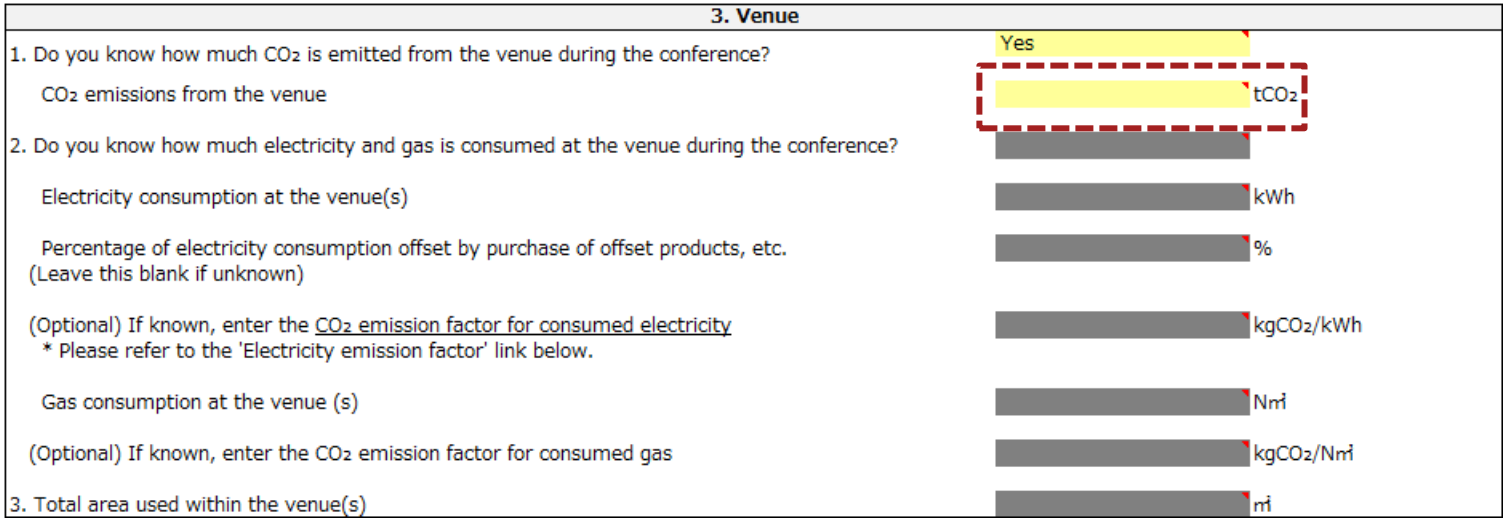
- Step 1
  - Select the yellow cell, press the pull-down and choose your answer.
  - If you select 'Yes', go to step 2; if you select 'No', go to step 3.



Main Sheet

Enter ‘3. Venue’

- Step 2
  - Fill in the yellow cell according to comments.
  - After entering the information, go to ‘4. Purchased goods’.

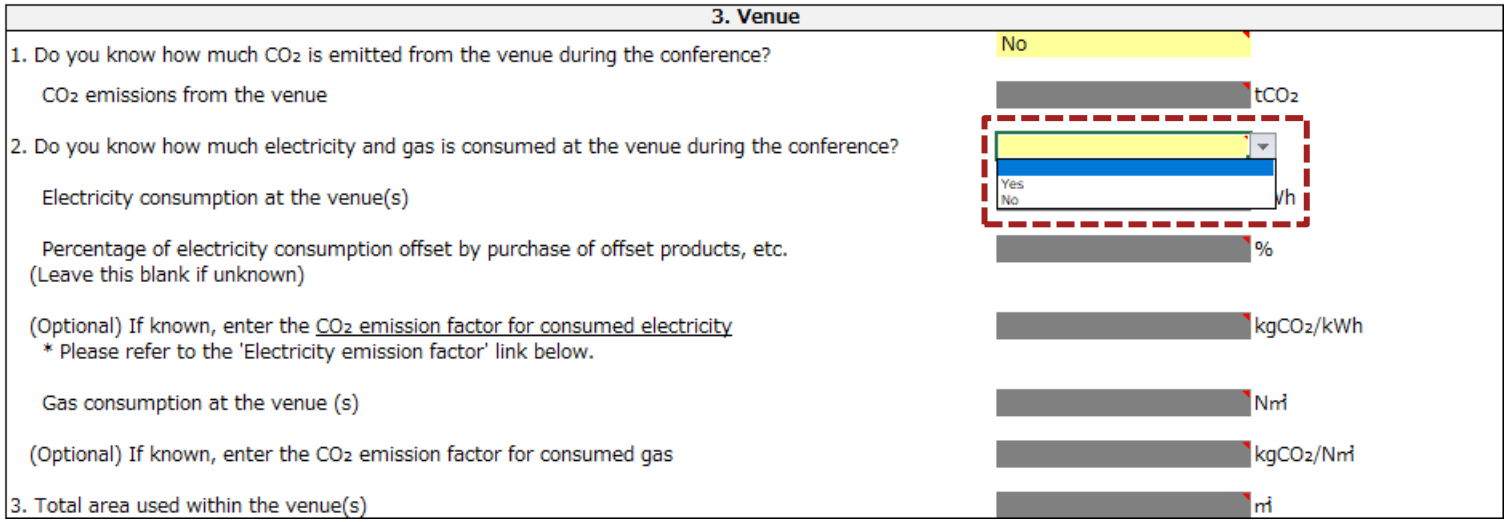


3. Venue	
1. Do you know how much CO_2 is emitted from the venue during the conference?	Yes
CO_2 emissions from the venue	tCO_2
2. Do you know how much electricity and gas is consumed at the venue during the conference?	
Electricity consumption at the venue(s)	kWh
Percentage of electricity consumption offset by purchase of offset products, etc. (Leave this blank if unknown)	%
(Optional) If known, enter the CO_2 emission factor for consumed electricity * Please refer to the 'Electricity emission factor' link below.	$kgCO_2/kWh$
Gas consumption at the venue (s)	Nm^3
(Optional) If known, enter the CO_2 emission factor for consumed gas	$kgCO_2/Nm^3$
3. Total area used within the venue(s)	m^2

Main Sheet

Enter ‘3. Venue’

- Step 3
  - Select the yellow cell, press the pull-down and choose your answer.
  - If you select 'Yes', go to step 4; if you select 'No', go to step 5.



Main Sheet

Enter ‘3. Venue’

- Step 4
  - Fill in the yellow cells according to comments.
  - (For online environment) With regard to the emission factors for power consumption, press the button below the table and use it as a reference for input.

3. Venue	
1. Do you know how much CO_2 is emitted from the venue during the conference?	No
CO_2 emissions from the venue	tCO_2
2. Do you know how much electricity and gas is consumed at the venue during the conference?	Yes
Electricity consumption at the venue(s)	kWh
Percentage of electricity consumption offset by purchase of offset products, etc. (Leave this blank if unknown)	%
(Optional) If known, enter the CO_2 emission factor for consumed electricity * Please refer to the 'Electricity emission factor' link below.	$kgCO_2/kWh$
Gas consumption at the venue (s)	Nm^3
(Optional) If known, enter the CO_2 emission factor for consumed gas	$kgCO_2/Nm^3$
3. Total area used within the venue(s)	m^2

* Please refer to the relevant data in the link on the right regarding the emission factor for consumed electricity, and fill in 3-2. emission factor for consumed electricity if possible. Source: Ministry of the Environment	Electricity emission factor data

Main Sheet

Enter ‘3. Venue’

- Step 5
  - Fill in the yellow cells according to comments.
  - After entering the information, go to ‘4. Purchased goods’.

3. Venue		
1. Do you know how much CO_2 is emitted from the venue during the conference?	No	
CO_2 emissions from the venue		tCO_2
2. Do you know how much electricity and gas is consumed at the venue during the conference?	No	
Electricity consumption at the venue(s)		kWh
Percentage of electricity consumption offset by purchase of offset products, etc. (Leave this blank if unknown)		%
(Optional) If known, enter the CO_2 emission factor for consumed electricity * Please refer to the 'Electricity emission factor' link below.		$kgCO_2/kWh$
Gas consumption at the venue (s)		Nm^3
(Optional) If known, enter the CO_2 emission factor for consumed gas		$kgCO_2/Nm^3$
3. Total area used within the venue(s)		m^2

Main Sheet

Enter ‘3. Venue’

- Example of how to fill in ‘3. Venue’

3. Venue		
1. Do you know how much CO_2 is emitted from the venue during the conference?	No	
CO_2 emissions from the venue		tCO_2
2. Do you know how much electricity and gas is consumed at the venue during the conference?	Yes	
Electricity consumption at the venue(s)	40,000	kWh
Percentage of electricity consumption offset by purchase of offset products, etc. (Leave this blank if unknown)	10	%
(Optional) If known, enter the CO_2 emission factor for consumed electricity * Please refer to the 'Electricity emission factor' link below.	0.321	$kgCO_2/kWh$
Gas consumption at the venue (s)	2,000	Nm^3
(Optional) If known, enter the CO_2 emission factor for consumed gas		$kgCO_2/Nm^3$
3. Total area used within the venue(s)		m^2

Main Sheet

Enter ‘Purchased goods’

- Step 1
  - Fill in the yellow cells according to comments.
  - After entering the information, go to ‘5. Food and beverages’.

4. Purchased goods	
1. Cost for purchasing printing paper	JPY
2. Cost for printing and bookbinding (outsourcing)	JPY
3. Cost for purchasing paper for construction	JPY
4. Cost for purchasing stationery	JPY

- Example of how to fill in ‘4. Purchased goods’

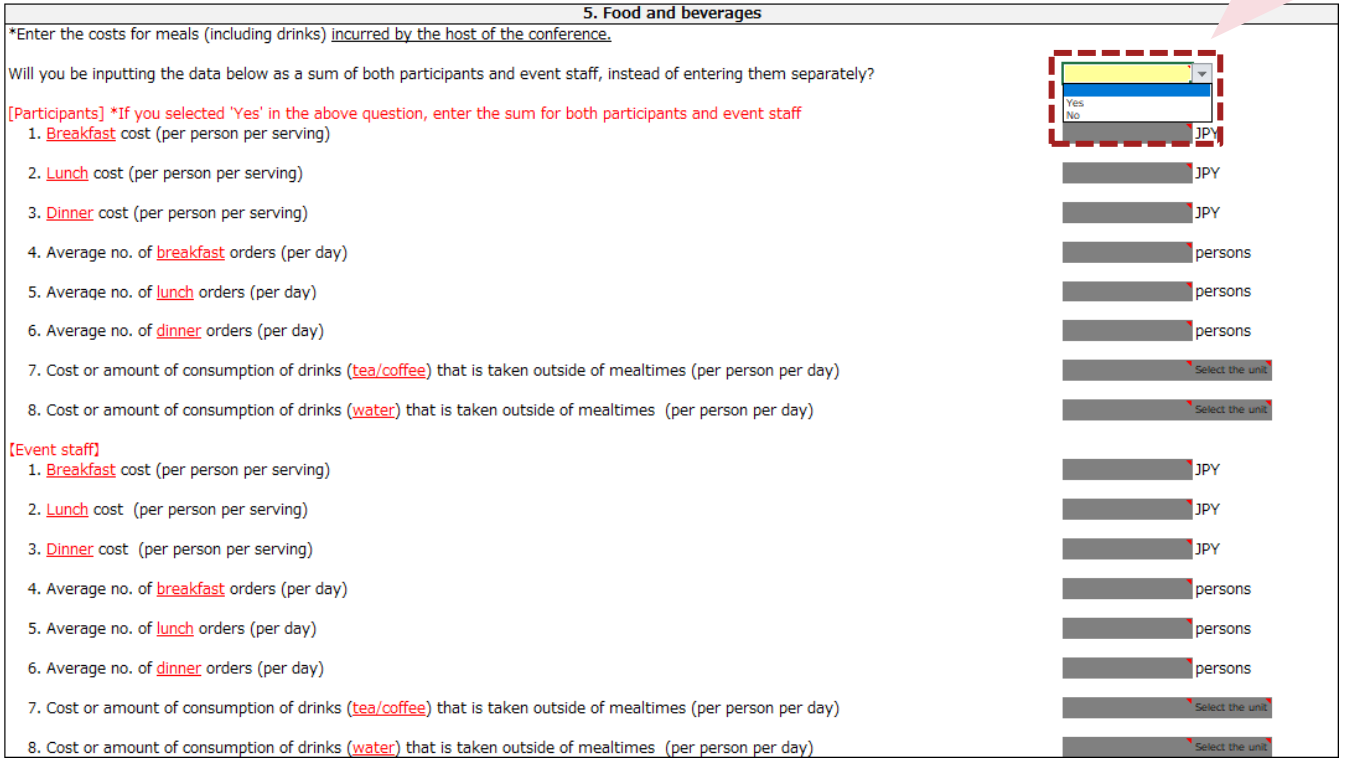
4. Purchased goods	
1. Cost for purchasing printing paper	90,000 JPY
2. Cost for printing and bookbinding (outsourcing)	80,000 JPY
3. Cost for purchasing paper for construction	70,000 JPY
4. Cost for purchasing stationery	60,000 JPY

Main Sheet

Enter ‘5. Food and beverages’

- Step 1
  - Select the yellow cell, press the pull-down and choose your answer.
  - If you select 'Yes', go to step 2-1; if you select ‘No’, go to step 3-1.

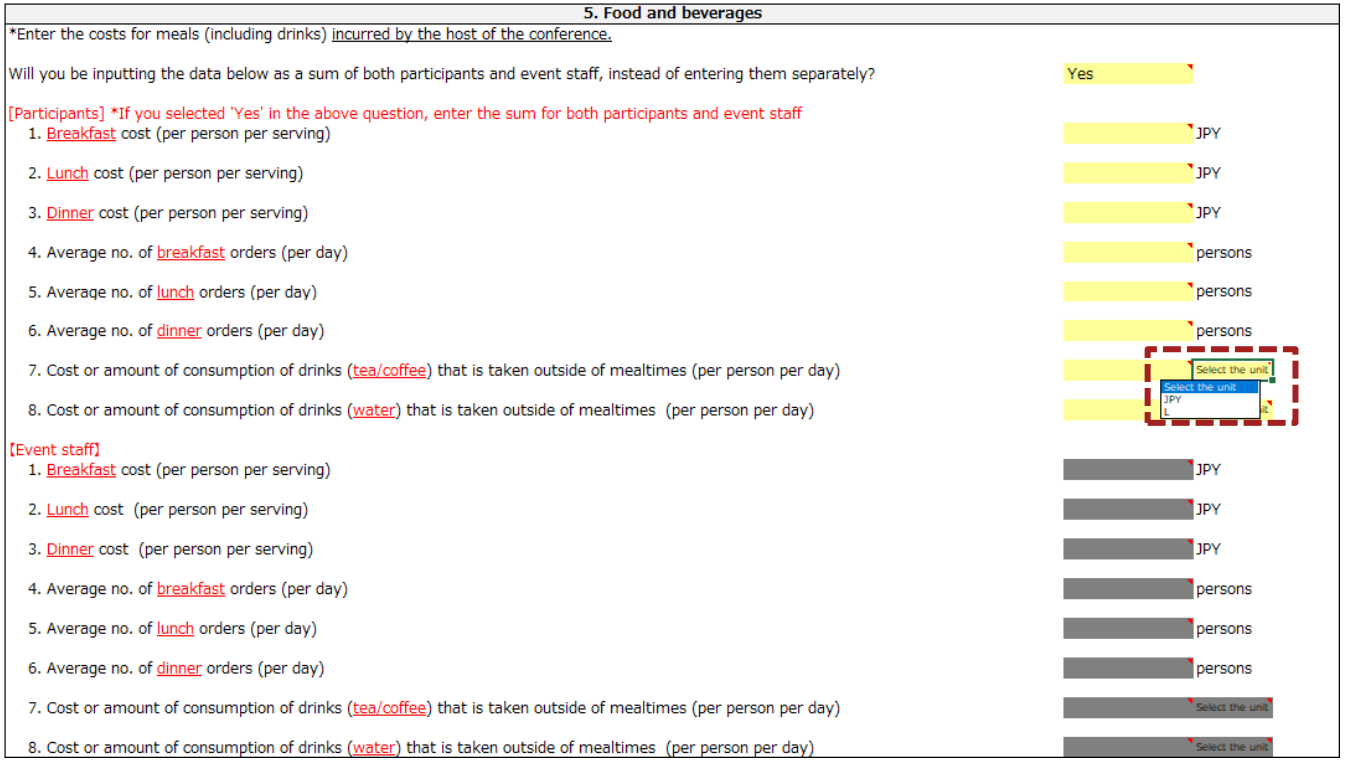
If 'Yes' is selected, the amount per participant and event staff will be calculated as an equal number.



Main Sheet

Enter ‘5. Food and beverages’

- Step 2-1
  - Select the two yellow cells marked 'Select the unit', press the pull-down and choose your answer.

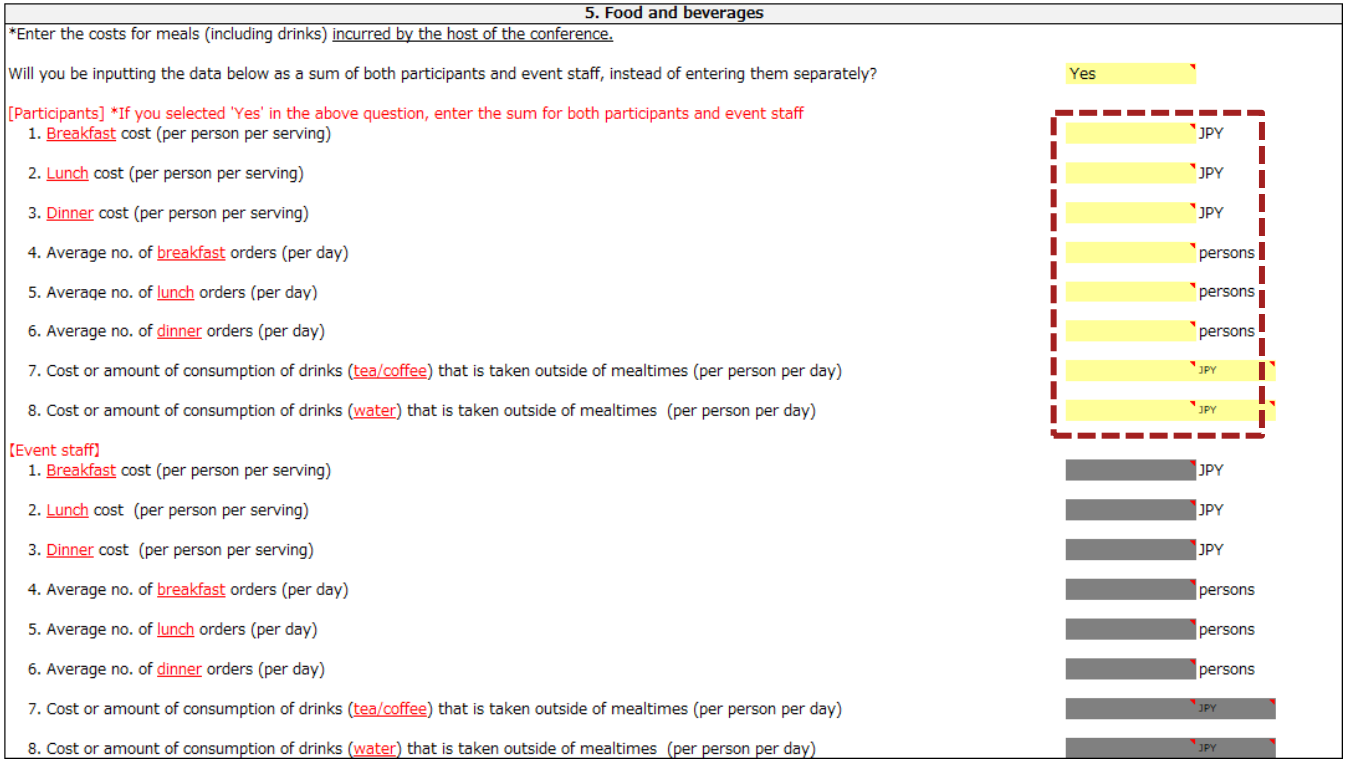


5. Food and beverages		
*Enter the costs for meals (including drinks) incurred by the host of the conference.		
Will you be inputting the data below as a sum of both participants and event staff, instead of entering them separately?	Yes	
[Participants] *If you selected 'Yes' in the above question, enter the sum for both participants and event staff		
1. Breakfast cost (per person per serving)		JPY
2. Lunch cost (per person per serving)		JPY
3. Dinner cost (per person per serving)		JPY
4. Average no. of breakfast orders (per day)		persons
5. Average no. of lunch orders (per day)		persons
6. Average no. of dinner orders (per day)		persons
7. Cost or amount of consumption of drinks (tea/coffee) that is taken outside of mealtimes (per person per day)		Select the unit
8. Cost or amount of consumption of drinks (water) that is taken outside of mealtimes (per person per day)		Select the unit
【Event staff】		
1. Breakfast cost (per person per serving)		JPY
2. Lunch cost (per person per serving)		JPY
3. Dinner cost (per person per serving)		JPY
4. Average no. of breakfast orders (per day)		persons
5. Average no. of lunch orders (per day)		persons
6. Average no. of dinner orders (per day)		persons
7. Cost or amount of consumption of drinks (tea/coffee) that is taken outside of mealtimes (per person per day)		Select the unit
8. Cost or amount of consumption of drinks (water) that is taken outside of mealtimes (per person per day)		Select the unit

Main Sheet

Enter ‘5. Food and beverages’

- Step 2-2
  - Fill in all the yellow cells according to comments.
  - After entering the information, go to ‘6. Accommodation’.

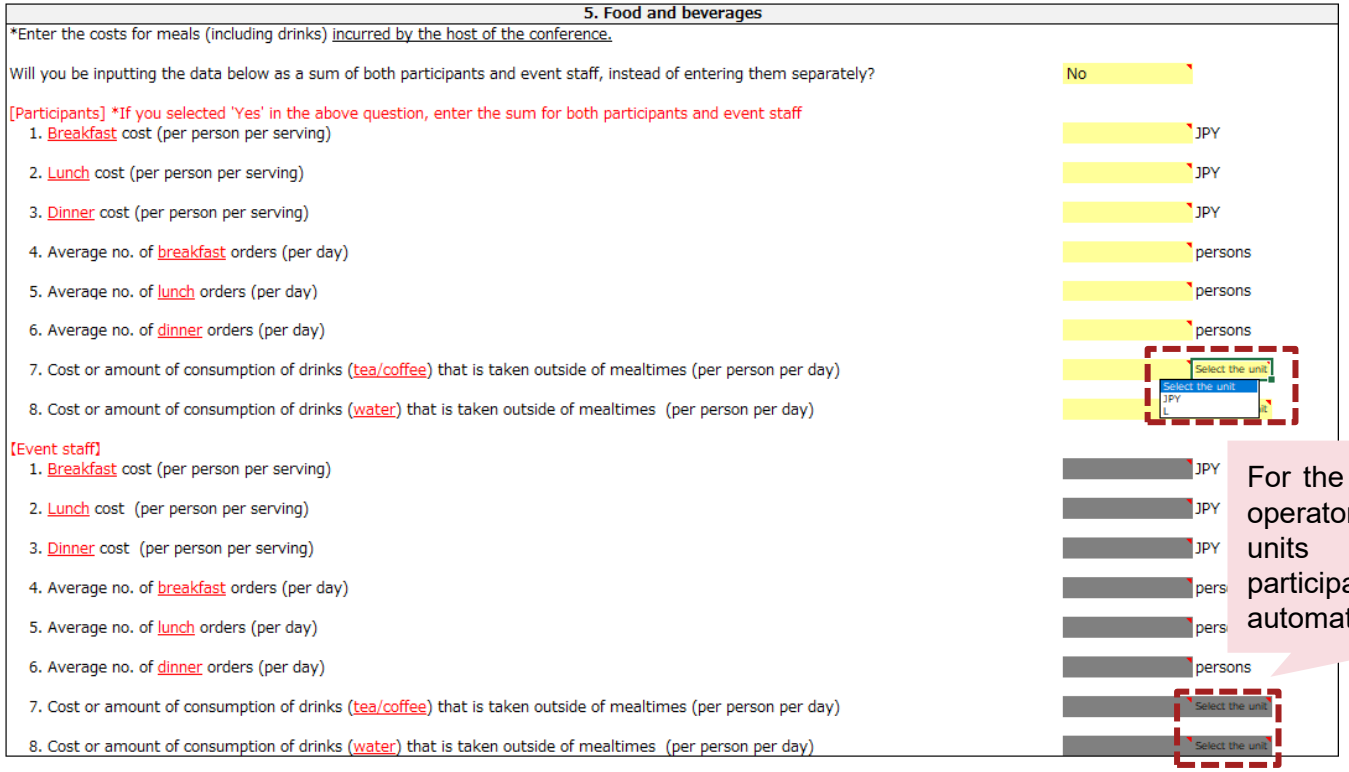


5. Food and beverages	
*Enter the costs for meals (including drinks) incurred by the host of the conference.	
Will you be inputting the data below as a sum of both participants and event staff, instead of entering them separately?	Yes
[Participants] *If you selected 'Yes' in the above question, enter the sum for both participants and event staff	
1. Breakfast cost (per person per serving)	JPY
2. Lunch cost (per person per serving)	JPY
3. Dinner cost (per person per serving)	JPY
4. Average no. of breakfast orders (per day)	persons
5. Average no. of lunch orders (per day)	persons
6. Average no. of dinner orders (per day)	persons
7. Cost or amount of consumption of drinks (tea/coffee) that is taken outside of mealtimes (per person per day)	JPY
8. Cost or amount of consumption of drinks (water) that is taken outside of mealtimes (per person per day)	JPY
【Event staff】	
1. Breakfast cost (per person per serving)	JPY
2. Lunch cost (per person per serving)	JPY
3. Dinner cost (per person per serving)	JPY
4. Average no. of breakfast orders (per day)	persons
5. Average no. of lunch orders (per day)	persons
6. Average no. of dinner orders (per day)	persons
7. Cost or amount of consumption of drinks (tea/coffee) that is taken outside of mealtimes (per person per day)	JPY
8. Cost or amount of consumption of drinks (water) that is taken outside of mealtimes (per person per day)	JPY

Main Sheet

Enter ‘5. Food and beverages’

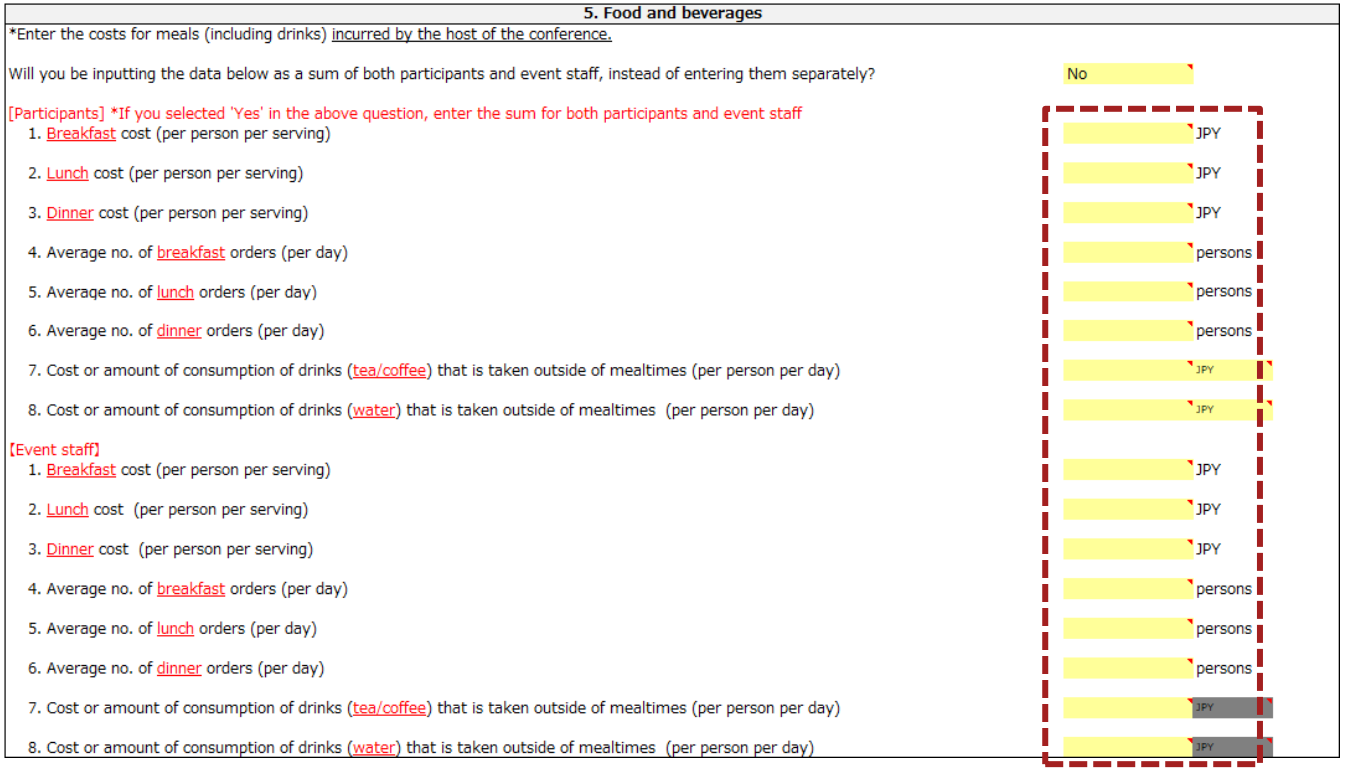
- Step 3-1
  - Select the two yellow cells marked ‘Select the unit’ on the participant’s side and press the pull-down to select an answer.
  - The input unit for ‘food and beverages’ of the participant/event staff side are unified for each item (tea/coffee, water).



Main Sheet

Enter ‘5. Food and beverages’

- Step 3-2
  - Fill in all the yellow cells according to comments.
  - After entering the information, go to ‘6. Accommodation’.



5. Food and beverages	
*Enter the costs for meals (including drinks) incurred by the host of the conference.	
Will you be inputting the data below as a sum of both participants and event staff, instead of entering them separately?	No
[Participants] *If you selected 'Yes' in the above question, enter the sum for both participants and event staff	
1. Breakfast cost (per person per serving)	JPY
2. Lunch cost (per person per serving)	JPY
3. Dinner cost (per person per serving)	JPY
4. Average no. of breakfast orders (per day)	persons
5. Average no. of lunch orders (per day)	persons
6. Average no. of dinner orders (per day)	persons
7. Cost or amount of consumption of drinks (tea/coffee) that is taken outside of mealtimes (per person per day)	JPY
8. Cost or amount of consumption of drinks (water) that is taken outside of mealtimes (per person per day)	JPY
【Event staff】	
1. Breakfast cost (per person per serving)	JPY
2. Lunch cost (per person per serving)	JPY
3. Dinner cost (per person per serving)	JPY
4. Average no. of breakfast orders (per day)	persons
5. Average no. of lunch orders (per day)	persons
6. Average no. of dinner orders (per day)	persons
7. Cost or amount of consumption of drinks (tea/coffee) that is taken outside of mealtimes (per person per day)	JPY
8. Cost or amount of consumption of drinks (water) that is taken outside of mealtimes (per person per day)	JPY

Main Sheet

Enter ‘5. Food and beverages’

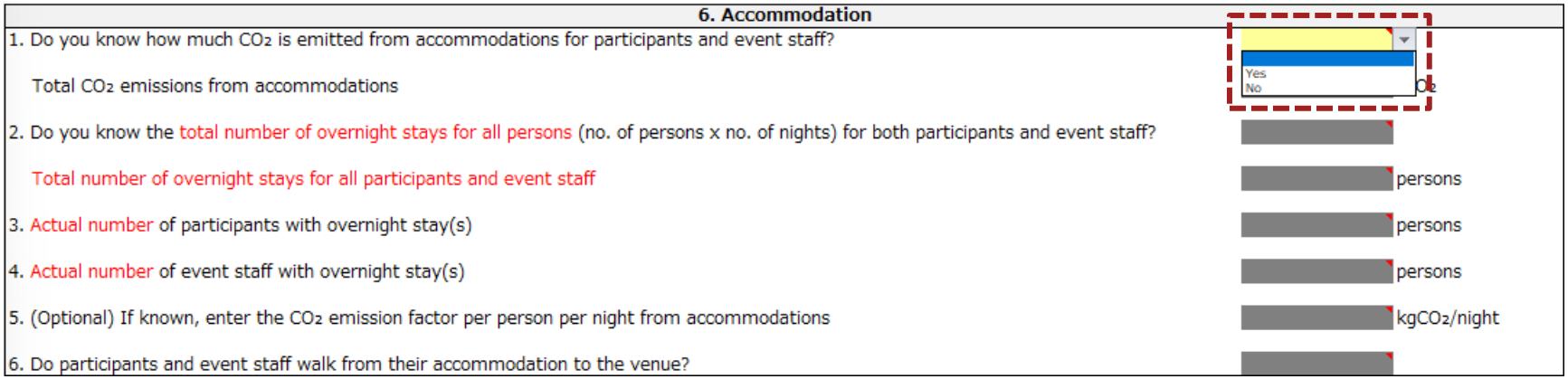
- Example of how to fill in ‘5. Food and beverages’.

5. Food and beverages		
*Enter the costs for meals (including drinks) incurred by the host of the conference.		
Will you be inputting the data below as a sum of both participants and event staff, instead of entering them separately?	No	
[Participants] *If you selected 'Yes' in the above question, enter the sum for both participants and event staff		
1. Breakfast cost (per person per serving)	500	JPY
2. Lunch cost (per person per serving)	1,000	JPY
3. Dinner cost (per person per serving)	3,000	JPY
4. Average no. of breakfast orders (per day)	300	persons
5. Average no. of lunch orders (per day)	800	persons
6. Average no. of dinner orders (per day)	500	persons
7. Cost or amount of consumption of drinks (tea/coffee) that is taken outside of mealtimes (per person per day)	200	JPY
8. Cost or amount of consumption of drinks (water) that is taken outside of mealtimes (per person per day)	100	JPY
【Event staff】		
1. Breakfast cost (per person per serving)	300	JPY
2. Lunch cost (per person per serving)	500	JPY
3. Dinner cost (per person per serving)	2,000	JPY
4. Average no. of breakfast orders (per day)	50	persons
5. Average no. of lunch orders (per day)	100	persons
6. Average no. of dinner orders (per day)	75	persons
7. Cost or amount of consumption of drinks (tea/coffee) that is taken outside of mealtimes (per person per day)	150	JPY
8. Cost or amount of consumption of drinks (water) that is taken outside of mealtimes (per person per day)	100	JPY

Main Sheet

Enter ‘6. Accommodation’

- Step 1
  - Select the yellow cell, press the pull-down and choose your answer.
  - If you select 'Yes', go to step 2-1; if you select 'No', go to step 3.



Main Sheet

Enter ‘6. Accommodation’

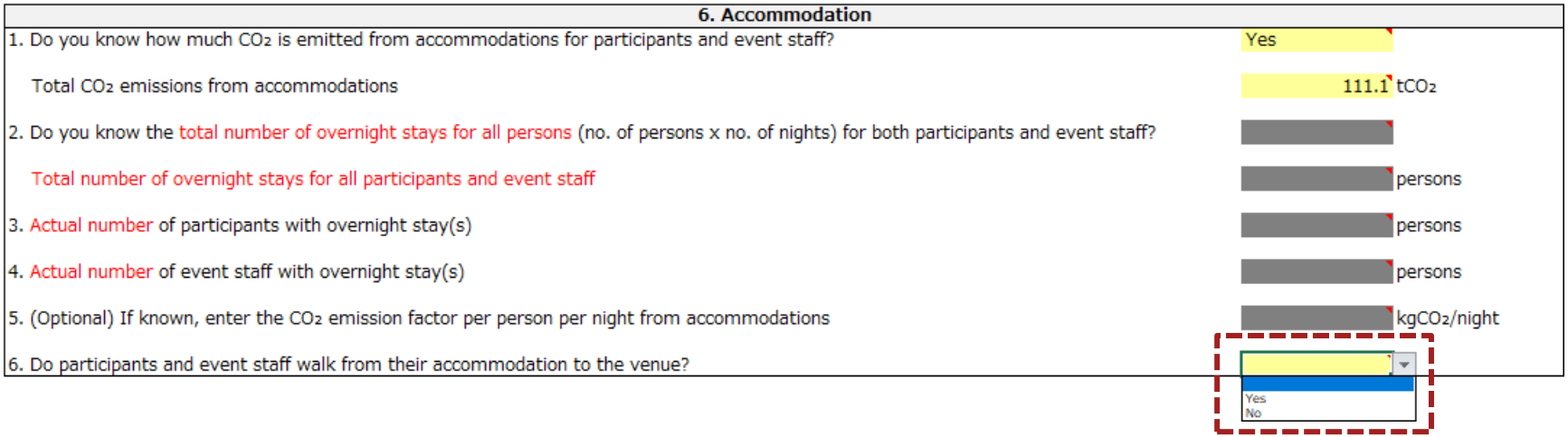
- Step 2-1
  - Fill in the yellow cells according to comments.

6. Accommodation		
1. Do you know how much CO_2 is emitted from accommodations for participants and event staff?	Yes	
Total CO_2 emissions from accommodations		tCO_2
2. Do you know the total number of overnight stays for all persons (no. of persons x no. of nights) for both participants and event staff?		
Total number of overnight stays for all participants and event staff		persons
3. Actual number of participants with overnight stay(s)		persons
4. Actual number of event staff with overnight stay(s)		persons
5. (Optional) If known, enter the CO_2 emission factor per person per night from accommodations		$kgCO_2$/night
6. Do participants and event staff walk from their accommodation to the venue?		

Main Sheet

Enter ‘6. Accommodation’

- Step 2-2
  - Select the yellow cell, press the pull-down and choose your answer.
  - After entering information, go to ‘7. Waste’.



Main Sheet

Enter ‘6. Accommodation’

- Step 3
  - Select the yellow cell, press the pull-down and choose your answer.
  - If you select 'Yes', go to step 4-1; if you select 'No', go to step 5-1.

6. Accommodation	
1. Do you know how much CO_2 is emitted from accommodations for participants and event staff?	No
Total CO_2 emissions from accommodations	tCO_2
2. Do you know the total number of overnight stays for all persons (no. of persons x no. of nights) for both participants and event staff?	Yes / No
Total number of overnight stays for all participants and event staff	rsons
3. Actual number of participants with overnight stay(s)	persons
4. Actual number of event staff with overnight stay(s)	persons
5. (Optional) If known, enter the CO_2 emission factor per person per night from accommodations	$kgCO_2$/night
6. Do participants and event staff walk from their accommodation to the venue?	

Main Sheet

Enter ‘6. Accommodation’

- Step 4-1
  - Fill in the yellow cells according to comments.

6. Accommodation	
1. Do you know how much CO_2 is emitted from accommodations for participants and event staff?	No
Total CO_2 emissions from accommodations	tCO_2
2. Do you know the total number of overnight stays for all persons (no. of persons x no. of nights) for both participants and event staff?	Yes
Total number of overnight stays for all participants and event staff	persons
3. Actual number of participants with overnight stay(s)	persons
4. Actual number of event staff with overnight stay(s)	persons
5. (Optional) If known, enter the CO_2 emission factor per person per night from accommodations	$kgCO_2$/night
6. Do participants and event staff walk from their accommodation to the venue?	

Main Sheet

Enter ‘6. Accommodation’

- Step 4-2
  - Select the yellow cell, press the pull-down and choose your answer.
  - After entering the information, go to ‘7. Waste’.

6. Accommodation		
1. Do you know how much CO_2 is emitted from accommodations for participants and event staff?	No	
Total CO_2 emissions from accommodations		tCO_2
2. Do you know the total number of overnight stays for all persons (no. of persons x no. of nights) for both participants and event staff?	Yes	
Total number of overnight stays for all participants and event staff	2,000	persons
3. Actual number of participants with overnight stay(s)		persons
4. Actual number of event staff with overnight stay(s)		persons
5. (Optional) If known, enter the CO_2 emission factor per person per night from accommodations		$kgCO_2$/night
6. Do participants and event staff walk from their accommodation to the venue?		

Main Sheet

Enter ‘6. Accommodation’

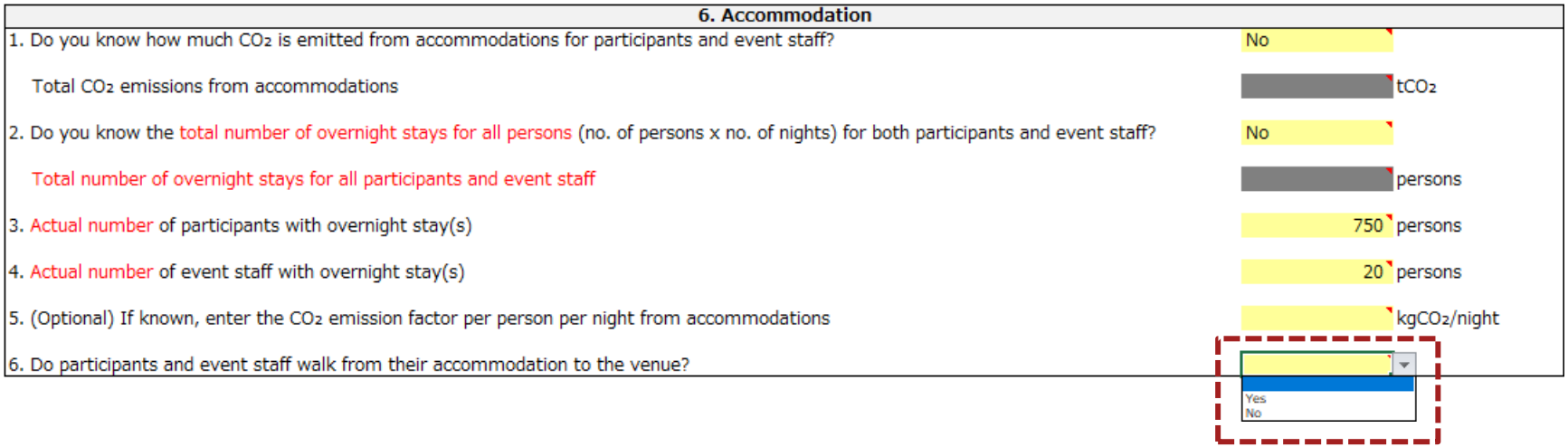
- Step 5-1
  - Fill in the yellow cells according to comments.

6. Accommodation		
1. Do you know how much CO_2 is emitted from accommodations for participants and event staff?	No	
Total CO_2 emissions from accommodations		tCO_2
2. Do you know the total number of overnight stays for all persons (no. of persons x no. of nights) for both participants and event staff?	No	
Total number of overnight stays for all participants and event staff		persons
3. Actual number of participants with overnight stay(s)		persons
4. Actual number of event staff with overnight stay(s)		persons
5. (Optional) If known, enter the CO_2 emission factor per person per night from accommodations		$kgCO_2$/night
6. Do participants and event staff walk from their accommodation to the venue?		

Main Sheet

Enter ‘6. Accommodation’

- Step 5-2
  - Select the yellow cell, press the pull-down and choose your answer.
  - After entering the information, go to ‘7. Waste’.



6. Accommodation	
1. Do you know how much CO_2 is emitted from accommodations for participants and event staff?	No
Total CO_2 emissions from accommodations	tCO_2
2. Do you know the total number of overnight stays for all persons (no. of persons x no. of nights) for both participants and event staff?	No
Total number of overnight stays for all participants and event staff	persons
3. Actual number of participants with overnight stay(s)	750 persons
4. Actual number of event staff with overnight stay(s)	20 persons
5. (Optional) If known, enter the CO_2 emission factor per person per night from accommodations	$kgCO_2$/night
6. Do participants and event staff walk from their accommodation to the venue?	Yes / No

Main Sheet

Enter ‘6. Accommodation’

- Example of how to fill in ‘6. Accommodation'

6. Accommodation		
1. Do you know how much CO_2 is emitted from accommodations for participants and event staff?	No	
Total CO_2 emissions from accommodations		tCO_2
2. Do you know the total number of overnight stays for all persons (no. of persons x no. of nights) for both participants and event staff?	No	
Total number of overnight stays for all participants and event staff		persons
3. Actual number of participants with overnight stay(s)	750	persons
4. Actual number of event staff with overnight stay(s)	20	persons
5. (Optional) If known, enter the CO_2 emission factor per person per night from accommodations		$kgCO_2$/night
6. Do participants and event staff walk from their accommodation to the venue?	No	

Main Sheet

Enter '7.Waste'

- Step 1
  - Select the yellow cell, press the pull-down and choose your answer.
  - If you select 'Yes', go to step 2; if you select 'No', go to step 3.

7. Waste	
1. Do you know the amount of disposed waste (paper, plastic and PET bottles)?	Yes / No
Amount of paper waste	
Amount of plastic waste	kg
Amount of PET bottle waste	kg
2. Cost incurred for the disposal of bulky waste	JPY

Main Sheet

Enter '7.Waste'

- Step 2
  - Fill in all the yellow cells according to comments.
  - This is the end of the Main sheet. Please continue to review the Main sheet.

7. Waste		
1. Do you know the amount of disposed waste (paper, plastic and PET bottles)?	Yes	
Amount of paper waste		kg
Amount of plastic waste		kg
Amount of PET bottle waste		kg
2. Cost incurred for the disposal of bulky waste		JPY

Main Sheet

Enter '7.Waste'

- Step 3
  - Fill in the yellow cell according to comments.
  - This is the end of the Main sheet. Please continue to review the Main sheet.

7. Waste		
1. Do you know the amount of disposed waste (paper, plastic and PET bottles)?	No	
Amount of paper waste		kg
Amount of plastic waste		kg
Amount of PET bottle waste		kg
2. Cost incurred for the disposal of bulky waste		JPY

Main Sheet

Enter '7.Waste'

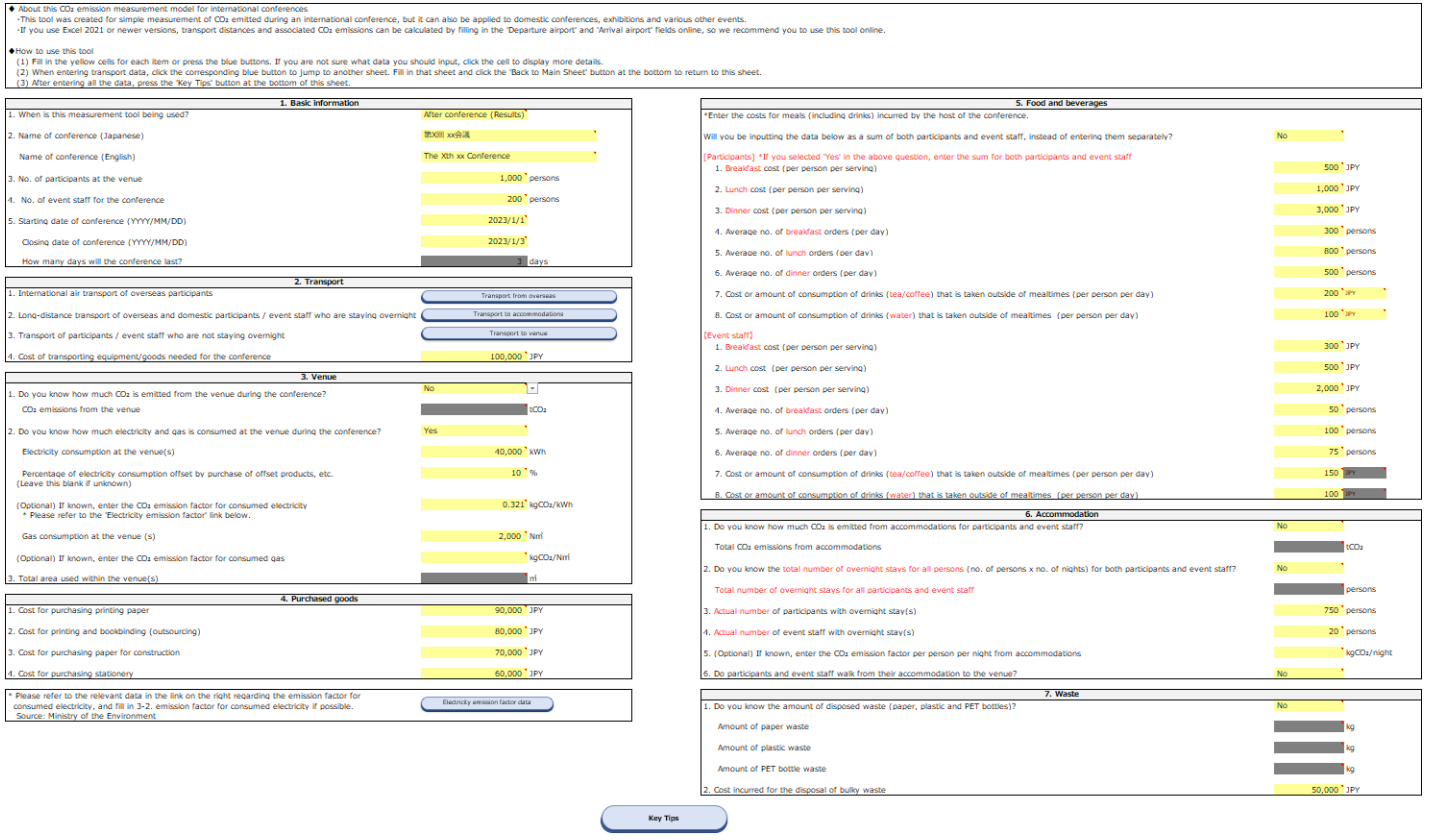
- Example of how to fill in '7.Waste'

7. Waste		
1. Do you know the amount of disposed waste (paper, plastic and PET bottles)?	No	
Amount of paper waste		kg
Amount of plastic waste		kg
Amount of PET bottle waste		kg
2. Cost incurred for the disposal of bulky waste	50,000	JPY

Main Sheet

Final review of the Main sheet

- Finally, make sure that the yellow cells on the Main sheet are filled in properly.



◆ About this CO_2 emission measurement model for international conferences
·This tool was created for simple measurement of CO_2 emitted during an international conference, but it can also be applied to domestic conferences, exhibitions and various other events.
·If you use Excel 2021 or newer versions, transport distances and associated CO_2 emissions can be calculated by filling in the 'Departure airport' and 'Arrival airport' fields online, so we recommend you to use this tool online.

◆How to use this tool
(1) Fill in the yellow cells for each item or press the blue buttons. If you are not sure what data you should input, click the cell to display more details.
(2) When entering transport data, click the corresponding blue button to jump to another sheet. Fill in that sheet and click the 'Back to Main Sheet' button at the bottom to return to this sheet.
(3) After entering all the data, press the 'Key Tips' button at the bottom of this sheet.

1. Basic information

1. When is this measurement tool being used?	After conference (Results)
2. Name of conference (Japanese)	第XIII xx会議
Name of conference (English)	The Xth xx Conference
3. No. of participants at the venue	1,000 persons
4. No. of event staff for the conference	200 persons
5. Starting date of conference (YYYY/MM/DD)	2023/1/1
Closing date of conference (YYYY/MM/DD)	2023/1/3
How many days will the conference last?	3 days

2. Transport

1. International air transport of overseas participants	Transport from overseas
2. Long-distance transport of overseas and domestic participants / event staff who are staying overnight	Transport to accommodations
3. Transport of participants / event staff who are not staying overnight	Transport to venue
4. Cost of transporting equipment/goods needed for the conference	100,000 JPY

3. Venue

1. Do you know how much CO_2 is emitted from the venue during the conference?	No
CO_2 emissions from the venue	tCO_2
2. Do you know how much electricity and gas is consumed at the venue during the conference?	Yes
Electricity consumption at the venue(s)	40,000 kWh
Percentage of electricity consumption offset by purchase of offset products, etc. (Leave this blank if unknown)	10 %
(Optional) If known, enter the CO_2 emission factor for consumed electricity * Please refer to the 'Electricity emission factor' link below.	0.321 $kgCO_2/kWh$
Gas consumption at the venue (s)	2,000 Nm^3
(Optional) If known, enter the CO_2 emission factor for consumed gas	$kgCO_2/Nm^3$
3. Total area used within the venue(s)	m^2

4. Purchased goods

1. Cost for purchasing printing paper	90,000 JPY
2. Cost for printing and bookbinding (outsourcing)	80,000 JPY
3. Cost for purchasing paper for construction	70,000 JPY
4. Cost for purchasing stationery	60,000 JPY

* Please refer to the relevant data in the link on the right regarding the emission factor for consumed electricity, and fill in 3-2. emission factor for consumed electricity if possible.
Source: Ministry of the Environment
Electricity emission factor data

5. Food and beverages

*Enter the costs for meals (including drinks) incurred by the host of the conference.

Will you be inputting the data below as a sum of both participants and event staff, instead of entering them separately?	No
[Participants] *If you selected 'Yes' in the above question, enter the sum for both participants and event staff	
1. Breakfast cost (per person per serving)	500 JPY
2. Lunch cost (per person per serving)	1,000 JPY
3. Dinner cost (per person per serving)	3,000 JPY
4. Average no. of breakfast orders (per day)	300 persons
5. Average no. of lunch orders (per day)	800 persons
6. Average no. of dinner orders (per day)	500 persons
7. Cost or amount of consumption of drinks (tea/coffee) that is taken outside of mealtimes (per person per day)	200 JPY
8. Cost or amount of consumption of drinks (water) that is taken outside of mealtimes (per person per day)	100 JPY
[Event staff]	
1. Breakfast cost (per person per serving)	300 JPY
2. Lunch cost (per person per serving)	500 JPY
3. Dinner cost (per person per serving)	2,000 JPY
4. Average no. of breakfast orders (per day)	50 persons
5. Average no. of lunch orders (per day)	100 persons
6. Average no. of dinner orders (per day)	75 persons
7. Cost or amount of consumption of drinks (tea/coffee) that is taken outside of mealtimes (per person per day)	150 JPY
8. Cost or amount of consumption of drinks (water) that is taken outside of mealtimes (per person per day)	100 JPY

6. Accommodation

1. Do you know how much CO_2 is emitted from accommodations for participants and event staff?	No
Total CO_2 emissions from accommodations	tCO_2
2. Do you know the total number of overnight stays for all persons (no. of persons x no. of nights) for both participants and event staff?	No
Total number of overnight stays for all participants and event staff	persons
3. Actual number of participants with overnight stay(s)	750 persons
4. Actual number of event staff with overnight stay(s)	20 persons
5. (Optional) If known, enter the CO_2 emission factor per person per night from accommodations	$kgCO_2/night$
6. Do participants and event staff walk from their accommodation to the venue?	No

7. Waste

1. Do you know the amount of disposed waste (paper, plastic and PET bottles)?	No
Amount of paper waste	kg
Amount of plastic waste	kg
Amount of PET bottle waste	kg
2. Cost incurred for the disposal of bulky waste	50,000 JPY

Key Tips

Agenda

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2. Potential usage scenarios ····· 9

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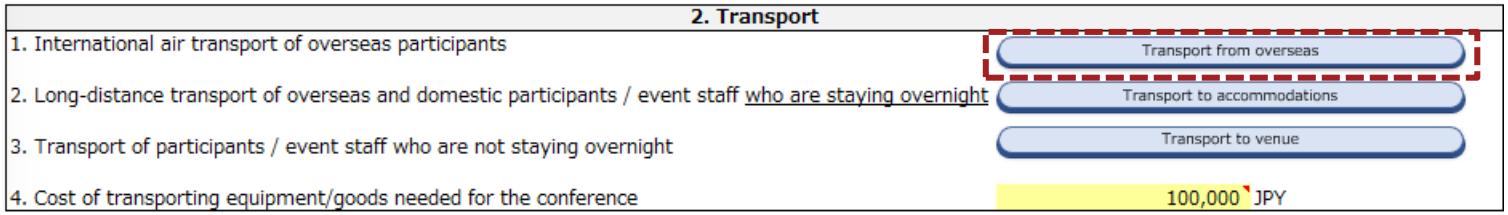
Transport from overseas

- Step 1
  - Press ‘Transport from overseas’ in the ‘2. Transport’ section of the Main sheet.



Transport from overseas

- Step 2
  - Check that the table like the one below is displayed.

♦ This sheet calculates the amount of CO_2 emissions associated with international air transport of overseas participants.

♦ Follow the steps below to enter information:
(1) Provide basic information by selecting your answer from the options below.
(2)-1. If you know which departure/arrival airports are used, enter the official airport names in Japanese or in alphabet letters (use half-width alphanumeric characters, and both small and capital letters can be used).
(2)-2. The location data of the airport has been correctly identified if the relevant Google map link is displayed in the 'Confirmation of departure/arrival airport' columns. If it is not identified, leave the 'Departure airport' field blank, and instead fill in departure country/region (the CO_2 emission will be calculated based on the distance from the capital of the departure country/region).
(3) Don't enter the arrival airport if it is unknown. In that case, the CO_2 emission is calculated based on the distance to the preset coordinates (the capital of Japan).

♦ Notes
・Only fill in the yellow cells (please leave the grey cells blank).
・Only enter the "Departure airport" and "Arrival airport" columns if you are using Excel 2016 or newer versions and are in an online environment.
・When using Excel versions earlier than 2016 or when using the software offline, the location-specific feature cannot be utilized.
Therefore, for the basic question 'Do you know the departure/arrival airports used by overseas participants?', please choose 'Know none of them'.

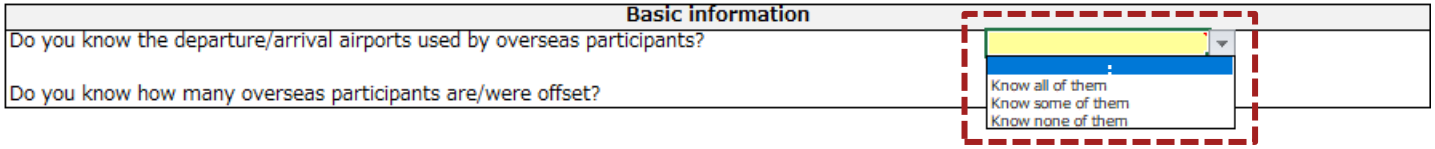
Basic information	
Do you know the departure/arrival airports used by overseas participants?	
Do you know how many overseas participants are/were offset?	

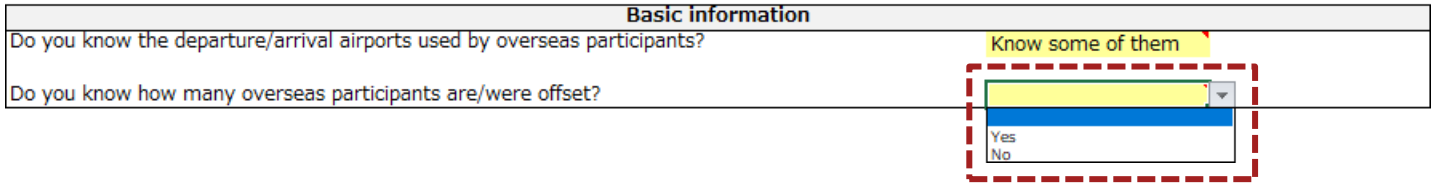
#	Departure airport	Arrival airport	Departure country / Country of origin	No. of persons	No. of persons offset	Confirmation of departure airport	Confirmation of arrival airport	Distance (km)	Distance (passenger-km)	CO_2 emissions ($kgCO_2$)
1										
2										
3										
4										
5										
6										
7										
8										
9										
10										
11										
12										
13										
14										
15										
16										
17										
18										
19										
20										

Back to Main Sheet

Transport from overseas

- Step 3
  - Select the yellow cell in the field marked ‘Basic information’, press the pull-down and select an answer.
  - The color of the input field under ‘Basic information’ will change from grey to green according to your selection in Step 3.
  - If you are using this tool in an online environment with Excel 2016 or a later version, go to step 4-1.
  - If you are using this tool in a version earlier than Excel 2016 or in an offline environment, select 'Know none of them' for the first question, then answer the second question and go to step 5-1.





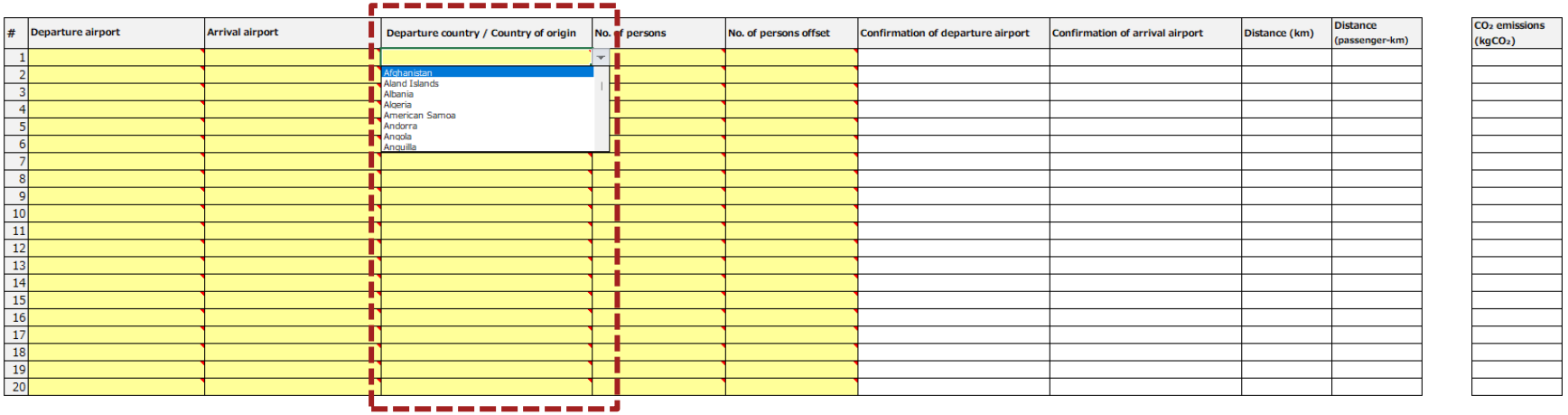
Transport from overseas

- Step 4-1 Only for Excel 2016 or a later version and online environment
  - Enter the name of the airport (official name) used by an overseas' participant in the 'Departure airport' field, if you know the name.
  - If you do not know the departure airport, or if you clicked 'Confirmation of departure airport' to check the link and found that it is different from the name of the airport you entered, go to step 4-2 without entering 'departure airport' field.

#	Departure airport	Arrival airport	Departure country / Country of origin	No. of persons	No. of persons offset	Confirmation of departure airport	Confirmation of arrival airport	Distance (km)	Distance (passenger-km)	CO_2 emissions ($kgCO_2$)
1	John F. Kennedy International Airport					1. Departure airport Google Maps		10862.79058		
2										
3										
4										
5										
6										
7										
8										
9										
10										
11										
12										
13										
14										
15										
16										
17										
18										
19										
20										

Transport from overseas

- Step 4-2
  - For a participant from overseas whose ‘departure airport’ has not been filled in in Step 4-1, select the yellow cell in the ‘Departure country/Country of origin,’ press the pull-down, and select the country.



Transport from overseas

- Step 4-3
  - If you know the Arrival airport within Japan, select the yellow cell in the ‘Arrival airport‘ field, press the pull-down, and select the Arrival airport.
  - If you do not know the Arrival airport, or if you clicked ‘Confirmation of arrival airport’ to check the link and found that it is different from the name of the airport you entered, do not select the Arrival airport in the ‘Arrival airport’ field.

#	Departure airport	Arrival airport	Departure country / Country of origin	No. of persons	No. of persons offset	Confirmation of departure airport	Confirmation of arrival airport	Distance (km)	Distance (passenger-km)	CO_2 emissions ($kgCO_2$)
1	John F. Kennedy International Airport	Tokyo International Airport (Haneda Airport)				1. Departure airport Google Maps	1. Arrival airport Google Maps	10875.48485		
2										
3										
4										
5										
6										
7										
8										
9										
10										
11										
12										
13										
14										
15										
16										
17										
18										
19										
20										

Transport from overseas

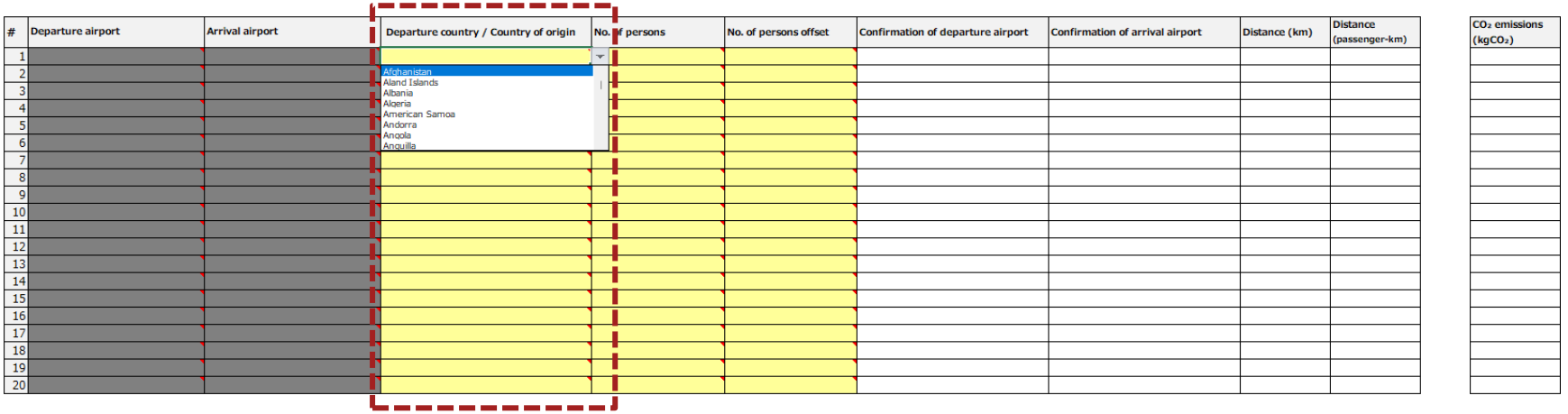
- Step 4-4
  - For rows where you have entered the ‘Departure airport’ (or ‘Departure country/Country of origin) and ’Arrival airport‘ (only as far as you know), enter the 'No. of persons’. If you know the number of persons who can reduce CO2 emissions to zero by purchasing offset products, etc., please enter them in ‘No. of persons offset’.

#	Departure airport	Arrival airport	Departure country / Country of origin	No. of persons	No. of persons offset	Confirmation of departure airport	Confirmation of arrival airport	Distance (km)	Distance (passenger-km)	CO_2 emissions ($kgCO_2$)
1	John F. Kennedy International Airport	Tokyo International Airport (Haneda Airport)		150	25	1. Departure airport Google Maps	1. Arrival airport Google Maps	10875.48485	2718871.213	225666.3107
2										
3										
4										
5										
6										
7										
8										
9										
10										
11										
12										
13										
14										
15										
16										
17										
18										
19										
20										

- Step 4-5
  - Repeat Steps 4-1 to 4-4 for all overseas participants and then go to Step 6.

Transport from overseas

- Step 5-1
  - Select the yellow cell in the 'Departure country/Country of origin', press the pull-down and choose your answer.



#	Departure airport	Arrival airport	Departure country / Country of origin	No. of persons	No. of persons offset	Confirmation of departure airport	Confirmation of arrival airport	Distance (km)	Distance (passenger-km)	CO_2 emissions ($kgCO_2$)
1										
2										
3										
4										
5										
6										
7										
8										
9										
10										
11										
12										
13										
14										
15										
16										
17										
18										
19										
20										

Afghanistan
Aland Islands
Albania
Algeria
American Samoa
Andorra
Angola
Anguilla

Transport from overseas

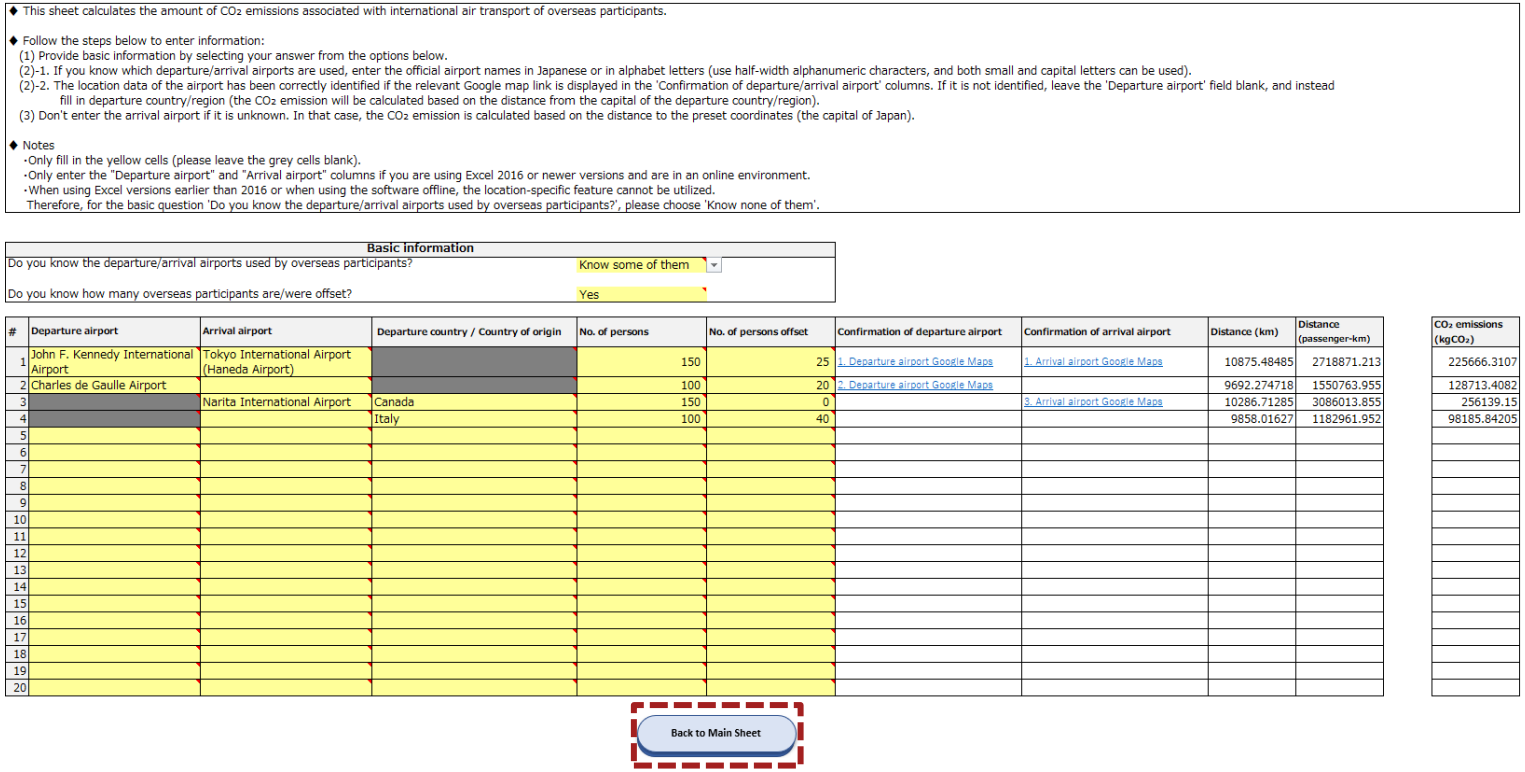
- Step 5-2
  - For rows where you have entered the ‘Departure country/Country of origin’, enter the 'No. of persons’. If you know the number of persons who can reduce CO_2 emissions to zero by purchasing offset products, etc., please enter them in ‘No. of persons offset’.

#	Departure airport	Arrival airport	Departure country / Country of origin	No. of persons	No. of persons offset	Confirmation of departure airport	Confirmation of arrival airport	Distance (km)	Distance (passenger-km)	CO_2 emissions ($kgCO_2$)
1			Italy					9858.01627	0	0
2										
3										
4										
5										
6										
7										
8										
9										
10										
11										
12										
13										
14										
15										
16										
17										
18										
19										
20										

- Step 5-3
  - Repeat Steps 5-1 to 5-3 for all overseas participants and then go to Step 6.

Transport from overseas

- Step 6
  - Finally, make sure that the yellow cells are properly filled in.
  - Press the 'Back to Main Sheet' button to move to the Main sheet.



♦ This sheet calculates the amount of CO_2 emissions associated with international air transport of overseas participants.

♦ Follow the steps below to enter information:
(1) Provide basic information by selecting your answer from the options below.
(2)-1. If you know which departure/arrival airports are used, enter the official airport names in Japanese or in alphabet letters (use half-width alphanumeric characters, and both small and capital letters can be used).
(2)-2. The location data of the airport has been correctly identified if the relevant Google map link is displayed in the 'Confirmation of departure/arrival airport' columns. If it is not identified, leave the 'Departure airport' field blank, and instead fill in departure country/region (the CO_2 emission will be calculated based on the distance from the capital of the departure country/region).
(3) Don't enter the arrival airport if it is unknown. In that case, the CO_2 emission is calculated based on the distance to the preset coordinates (the capital of Japan).

♦ Notes
·Only fill in the yellow cells (please leave the grey cells blank).
·Only enter the "Departure airport" and "Arrival airport" columns if you are using Excel 2016 or newer versions and are in an online environment.
·When using Excel versions earlier than 2016 or when using the software offline, the location-specific feature cannot be utilized.
Therefore, for the basic question 'Do you know the departure/arrival airports used by overseas participants?', please choose 'Know none of them'.

Basic information	
Do you know the departure/arrival airports used by overseas participants?	Know some of them
Do you know how many overseas participants are/were offset?	Yes

#	Departure airport	Arrival airport	Departure country / Country of origin	No. of persons	No. of persons offset	Confirmation of departure airport	Confirmation of arrival airport	Distance (km)	Distance (passenger-km)	CO_2 emissions ($kgCO_2$)
1	John F. Kennedy International Airport	Tokyo International Airport (Haneda Airport)		150	25	1. Departure airport Google Maps	1. Arrival airport Google Maps	10875.48485	2718871.213	225666.3107
2	Charles de Gaulle Airport			100	20	2. Departure airport Google Maps		9692.274718	1550763.955	128713.4082
3		Narita International Airport	Canada	150	0		3. Arrival airport Google Maps	10286.71285	3086013.855	256139.15
4			Italy	100	40			9858.01627	1182961.952	98185.84205
5										
6										
7										
8										
9										
10										
11										
12										
13										
14										
15										
16										
17										
18										
19										
20										

Back to Main Sheet

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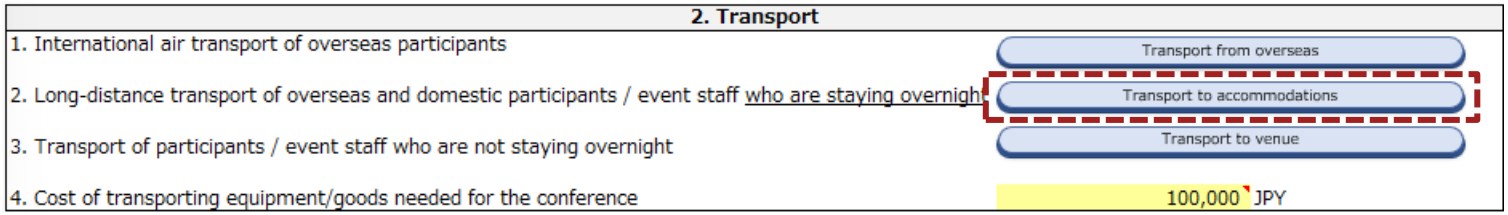
Transport to accommodations

- Step 1
  - Press the button marked 'Transport to accommodations' in the '2. Transport' of the Main sheet’.



Transport to accommodations

- Step 2
  - Check that a table like the one below is displayed.

◆This sheet calculates the amount of CO_2 emitted for transporting overseas participants from their respective arrival airports to their accommodation and for transporting domestic participants and event staff who are staying overnight from their respective departure locations to their accommodation.

◆ Follow the steps below to enter information:
(1) Enter the number of domestic participants with overnight stays in the 'No. of participants' field for each departure prefecture.
(2) Enter the number of domestic event staff with overnight stays in the 'No. of event staff' field for each departure prefecture.
(3) Keep the above-mentioned fields blank if their departure prefectures are unknown.
(4) Enter the number of domestic participants/event staff with overnight stays whose departure locations are unknown.

◆Notes
・Only input the name of accomodation if you are using Excel 2016 or newer versions and are in an online environment.
・When checking the 'Confiramation of accomodation' field, if a Google Maps link is displayed, the location information is recognized. If not recognized successfully, leave the accommodation name blank and manually select the prefecture of the accommodation location.
・If nothing has been entered in the 'Confirmation of accommodation' field, CO_2 emissions are calculated assuming that the accommodation is located in the prefectural capital.
・Although not all participants/event staff may stay in the same accommodation for the same duration, this simple calculation of distance travelled assumes that the same accommodation is used.
・For persons whose domestic departure locations (or domestic arrival locations for overseas participants) are unknown, their locations will be fixed to Tokyo.

Domestic arrival airport	Prefecture	No. of persons
Tokyo International Airport (Haneda Airport)	Tokyo	150
Narita International Airport	Chiba	150
		0
		0
		0
		0
		0
		0
		0
		0
		0
		0
		0
		0
		0
		0
		0
		0
		0
		0
		0

◆Departure locations of domestic participants/event staff with overnight stay(s)

Prefecture	No. of participants	No. of event staff	Prefecture	No. of participants	No. of event staff
Hokkaido			Shiga		
Aomori			Kyoto		
Iwate			Osaka		
Miyagi			Hyogo		
Akita			Nara		
Yamagata			Wakayama		
Fukushima			Tottori		
Ibaraki			Shimane		
Tochigi			Okayama		
Gunma			Hiroshima		
Saitama			Yamaguchi		
Chiba			Tokushima		
Tokyo			Kagawa		
Kanagawa			Ehime		
Niigata			Kochi		
Toyama			Fukuoka		
Ishikawa			Saga		
Fukui			Nagasaki		
Yamanashi			Kumamoto		
Nagano			Oita		
Gifu			Miyazaki		
Shizuoka			Kagoshima		
Aichi			Okinawa		
Mie					

Back to Main Sheet

Accommodation information	
Enter the name of the accommodation (hotel, inn, etc.)	
Prefecture of Accommodation (Automatic Input)	
Prefecture of Accommodation (Manual Input)	

Confirmation of accommodation

No. of persons staying overnight whose departure locations are unknown	
No. of overseas participants whose domestic arrival airports are unknown	200 persons
No. of domestic participants staying overnight whose departure locations are unknown	persons
No. of domestic event staff staying overnight whose departure locations are unknown	persons

Transport to accommodations

- Step 3
  - Make sure that 'Domestic arrival airport' and 'No. of persons' entered in the 'International transport' are displayed.
  - For the rows where 'Domestic arrival airport' and 'No. of persons' are entered, select the yellow cell, press the pull-down and choose your answer.

Domestic arrival airport	Prefecture	No. of persons
Tokyo International Airport (Haneda Airport)	Tokyo	150
Narita International Airport	Chiba	150
		0
		0
		0
		0
		0
		0
		0
		0
		0
		0
		0
		0
		0
		0
		0
		0
		0
		0
		0

Transport to accommodations

- Step 4
  - For the Departure locations of domestic participants/event staff with overnight stay(s), enter the number of persons to each prefecture.
  - If you are using this tool in an online environment with Excel 2016 or a later version, go to Step 5-1.
  - If you are using the tool in a version earlier than Excel 2016 or in an offline environment, go to Step 6.

◆Departure locations of domestic participants/event staff with overnight stay(s)

Prefecture	No. of participants	No. of event staff	Prefecture	No. of participants	No. of event staff
Hokkaido			Shiga		
Aomori			Kyoto		
Iwate			Osaka		
Miyagi			Hyogo		
Akita			Nara		
Yamagata			Wakayama		
Fukushima			Tottori		
Ibaraki			Shimane		
Tochigi			Okayama		
Gunma			Hiroshima		
Saitama			Yamaguchi		
Chiba			Tokushima		
Tokyo			Kagawa		
Kanagawa			Ehime		
Niigata			Kochi		
Toyama			Fukuoka		
Ishikawa			Saga		
Fukui			Nagasaki		
Yamanashi			Kumamoto		
Nagano			Oita		
Gifu			Miyazaki		
Shizuoka			Kagoshima		
Aichi			Okinawa		
Mie					

Transport to accommodation

- Step 5-1 Only for Excel 2016 or a later version and online environment
  - Enter the name of the accommodation (official name) in the yellow cell according to comments.

Accommodation information	
Enter the name of the accommodation (hotel, inn, etc.)	
Prefecture of Accommodation (Automatic Input)	
Prefecture of Accommodation (Manual Input)	

- Step 5-2 Only for Excel 2016 or a later version and online environment
  - Click the link in the ‘Confirmation of accommodation’ to check that it has been entered correctly, then go to Step 7.
  - The name of the prefecture is automatically entered based on the input of the accommodation name.
  - If you clicked the link and found that it is different from the accommodation you entered, go to Step 6 without entering

Accommodation information	
Enter the name of the accommodation (hotel, inn, etc.)	Park Hyatt Tokyo
Prefecture of Accommodation (Automatic Input)	Tokyo
Prefecture of Accommodation (Manual Input)	

Confirmation of accommodation
Accomodation Google Maps

Transport to accommodation

- Step 6
  - Select the prefecture of the location of accommodation.

※The location of the prefectural capital is automatically set as the place of accommodation.

Accommodation information	
Enter the name of the accommodation (hotel, inn, etc.)	
Prefecture of Accommodation (Automatic Input)	
Prefecture of Accommodation (Manual Input)	Tokyo

- Step 7
  - Fill in the yellow cells according to comments.

No. of persons staying overnight whose departure locations are unknown	
No. of overseas participants whose domestic arrival airports are unknown	200 persons
No. of domestic participants staying overnight whose departure locations are unknown	persons
No. of domestic event staff staying overnight whose departure locations are unknown	persons

Transport to accommodation

- Step 8
  - Finally, make sure that the yellow cells are properly filled in.
  - Press the 'Back to Main Sheet' button to go to the Main sheet.

◆This sheet calculates the amount of CO_2 emitted for transporting overseas participants from their respective arrival airports to their accommodation and for transporting domestic participants and event staff who are staying overnight from their respective departure locations to their accommodation.

◆ Follow the steps below to enter information:
(1) Enter the number of domestic participants with overnight stays in the 'No. of participants' field for each departure prefecture.
(2) Enter the number of domestic event staff with overnight stays in the 'No. of event staff' field for each departure prefecture.
(3) Keep the above-mentioned fields blank if their departure prefectures are unknown.
(4) Enter the number of domestic participants/event staff with overnight stays whose departure locations are unknown.

◆Notes
·Only input the name of accomodation if you are using Excel 2016 or newer versions and are in an online environment.
·When checking the 'Confiramation of accomodation' field, if a Google Maps link is displayed, the location information is recognized. If not recognized successfully, leave the accommodation name blank and manually select the prefecture of the accommodation location.
·If nothing has been entered in the 'Confirmation of accommodation' field, CO_2 emissions are calculated assuming that the accommodation is located in the prefectural capital.
·Although not all participants/event staff may stay in the same accommodation for the same duration, this simple calculation of distance travelled assumes that the same accommodation is used.
·For persons whose domestic departure locations (or domestic arrival locations for overseas participants) are unknown, their locations will be fixed to Tokyo.

Domestic arrival airport	Prefecture	No. of persons
Tokyo International Airport (Haneda Airport)	Tokyo	150
Narita International Airport	Chiba	150
		0
		0
		0
		0
		0
		0
		0
		0
		0
		0
		0
		0
		0
		0
		0
		0
		0
		0
		0

◆Departure locations of domestic participants/event staff with overnight stay(s)

Prefecture	No. of participants	No. of event staff	Prefecture	No. of participants	No. of event staff
Hokkaido	100		Shiga		
Aomori			Kyoto		
Iwate			Osaka		20
Miyagi			Hyogo		
Akita			Nara		
Yamagata			Wakayama		
Fukushima			Tottori		
Ibaraki			Shimane		
Tochigi			Okayama		
Gunma		50	Hiroshima		
Saitama			Yamaguchi		
Chiba			Tokushima		
Tokyo			Kagawa		
Kanagawa	50		Ehime		
Niigata			Kochi		
Toyama			Fukuoka		
Ishikawa			Saga		
Fukui			Nagasaki		
Yamanashi	50		Kumamoto		
Nagano			Oita		
Gifu			Miyazaki		
Shizuoka			Kagoshima		
Aichi			Okinawa		
Mie	50				

Back to Main Sheet

Accommodation information	
Enter the name of the accommodation (hotel, inn, etc.)	Park Hyatt Tokyo
Prefecture of Accommodation (Automatic Input)	Tokyo
Prefecture of Accommodation (Manual Input)	

Confirmation of accommodation
Accomodation Google Maps

No. of persons staying overnight whose departure locations are unknown		
No. of overseas participants whose domestic arrival airports are unknown	200	persons
No. of domestic participants staying overnight whose departure locations are unknown	50	persons
No. of domestic event staff staying overnight whose departure locations are unknown	50	persons

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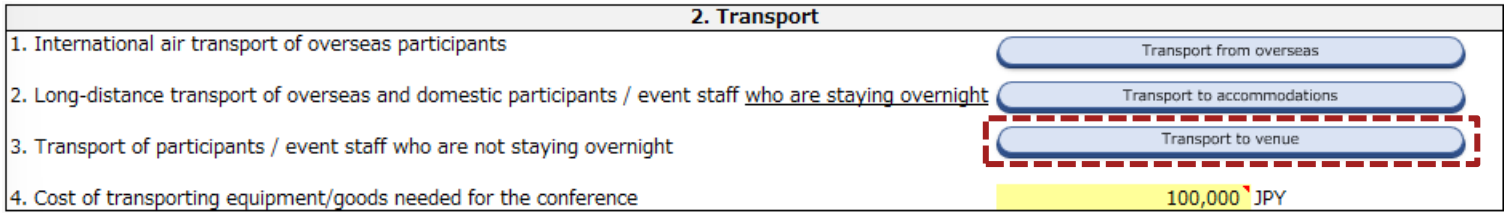
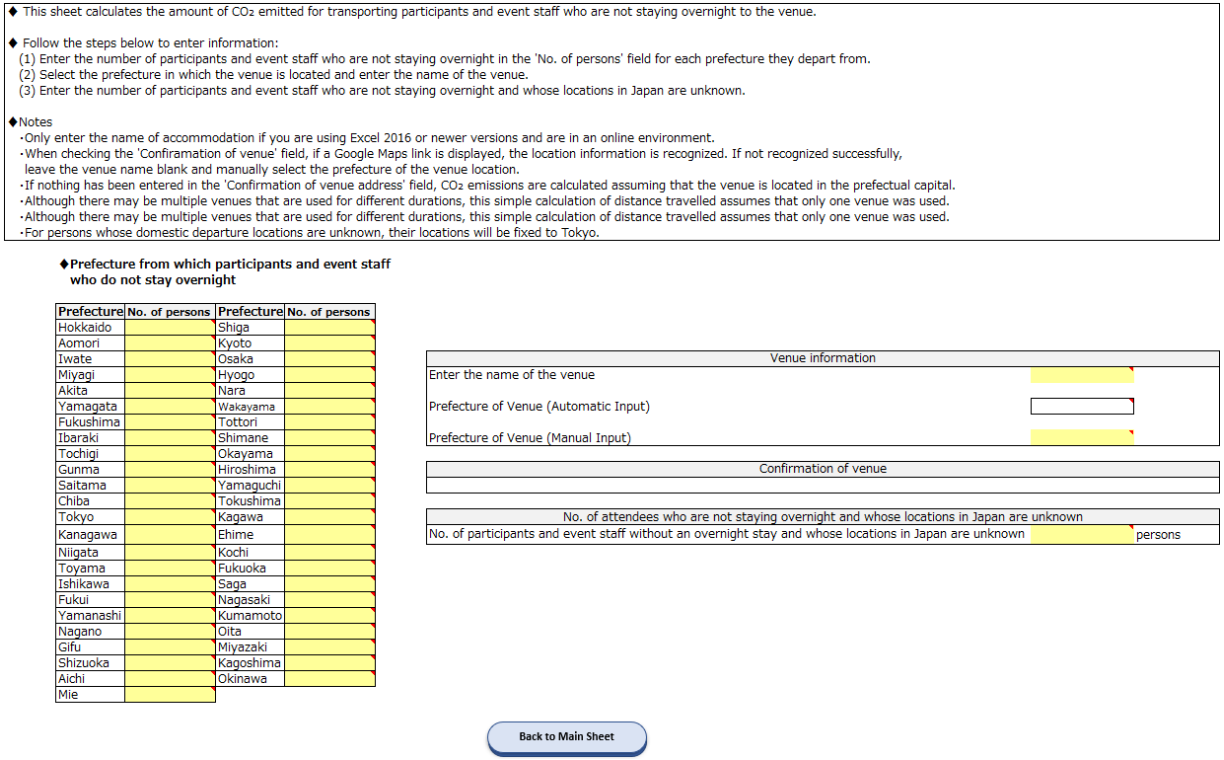
Transport to venue

- Step 1
  - Press the button marked ‘Transport to venue’ in the ‘2. Transport’ in the Main sheet’.



Transport to venue

- Step 2
  - Check that a table like the one below is displayed.



◆ This sheet calculates the amount of CO_2 emitted for transporting participants and event staff who are not staying overnight to the venue.

◆ Follow the steps below to enter information:
(1) Enter the number of participants and event staff who are not staying overnight in the 'No. of persons' field for each prefecture they depart from.
(2) Select the prefecture in which the venue is located and enter the name of the venue.
(3) Enter the number of participants and event staff who are not staying overnight and whose locations in Japan are unknown.

◆Notes
・Only enter the name of accommodation if you are using Excel 2016 or newer versions and are in an online environment.
・When checking the 'Confiramation of venue' field, if a Google Maps link is displayed, the location information is recognized. If not recognized successfully, leave the venue name blank and manually select the prefecture of the venue location.
・If nothing has been entered in the 'Confirmation of venue address' field, CO_2 emissions are calculated assuming that the venue is located in the prefectual capital.
・Although there may be multiple venues that are used for different durations, this simple calculation of distance travelled assumes that only one venue was used.
・Although there may be multiple venues that are used for different durations, this simple calculation of distance travelled assumes that only one venue was used.
・For persons whose domestic departure locations are unknown, their locations will be fixed to Tokyo.

◆Prefecture from which participants and event staff who do not stay overnight

Prefecture	No. of persons	Prefecture	No. of persons
Hokkaido		Shiga	
Aomori		Kyoto	
Iwate		Osaka	
Miyagi		Hyogo	
Akita		Nara	
Yamagata		Wakayama	
Fukushima		Tottori	
Ibaraki		Shimane	
Tochigi		Okayama	
Gunma		Hiroshima	
Saitama		Yamaguchi	
Chiba		Tokushima	
Tokyo		Kagawa	
Kanagawa		Ehime	
Niigata		Kochi	
Toyama		Fukuoka	
Ishikawa		Saga	
Fukui		Nagasaki	
Yamanashi		Kumamoto	
Nagano		Oita	
Gifu		Miyazaki	
Shizuoka		Kagoshima	
Aichi		Okinawa	
Mie			

Venue information	
Enter the name of the venue	
Prefecture of Venue (Automatic Input)	
Prefecture of Venue (Manual Input)	

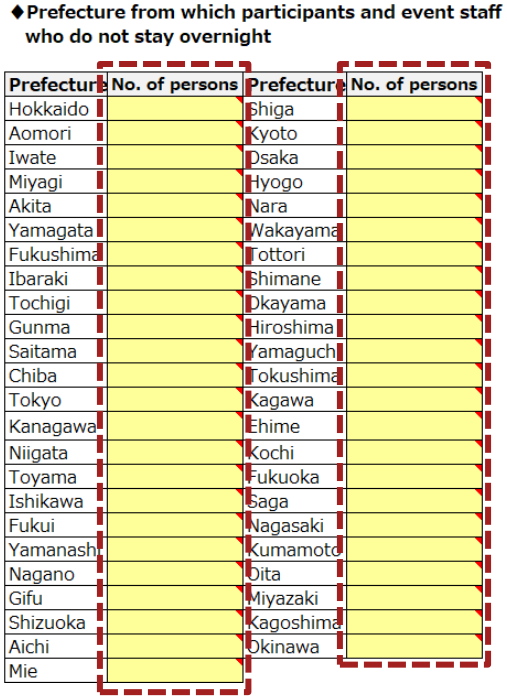
Confirmation of venue

No. of attendees who are not staying overnight and whose locations in Japan are unknown		
No. of participants and event staff without an overnight stay and whose locations in Japan are unknown		persons

Back to Main Sheet

Transport to venue

- Step 3
  - Please enter the number of persons to each prefecture field according to the departure locations of domestic participants and event staff who are not staying overnight.
  - If you are using this tool in an online environment with Excel 2016 or a later version, go to Step 4-1.
  - If you are using the tool in a version earlier than Excel 2016 or in an offline environment, go to Step 5.

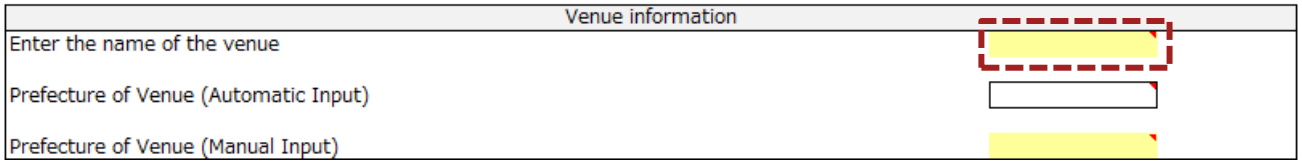


♦Prefecture from which participants and event staff who do not stay overnight

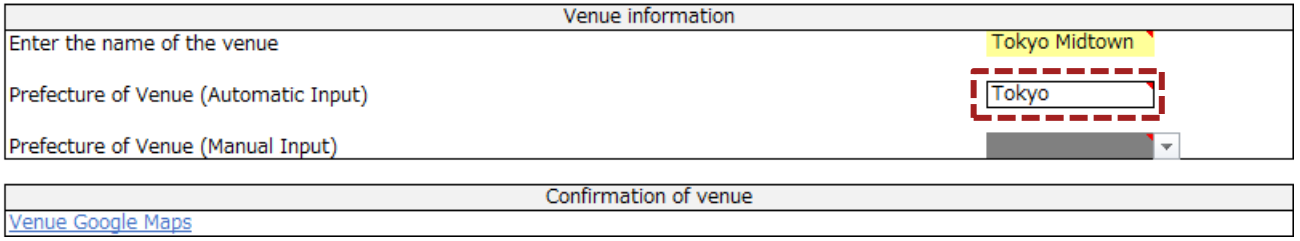
Prefecture	No. of persons	Prefecture	No. of persons
Hokkaido		Shiga	
Aomori		Kyoto	
Iwate		Osaka	
Miyagi		Hyogo	
Akita		Nara	
Yamagata		Wakayama	
Fukushima		Tottori	
Ibaraki		Shimane	
Tochigi		Okayama	
Gunma		Hiroshima	
Saitama		Yamaguchi	
Chiba		Tokushima	
Tokyo		Kagawa	
Kanagawa		Ehime	
Niigata		Kochi	
Toyama		Fukuoka	
Ishikawa		Saga	
Fukui		Nagasaki	
Yamanashi		Kumamoto	
Nagano		Oita	
Gifu		Miyazaki	
Shizuoka		Kagoshima	
Aichi		Okinawa	
Mie			

Transport to venue

- Step 4-1 Only for Excel 2016 or a later version and online environment
  - Enter the name of the venue (official name) in the yellow cells according to comments.

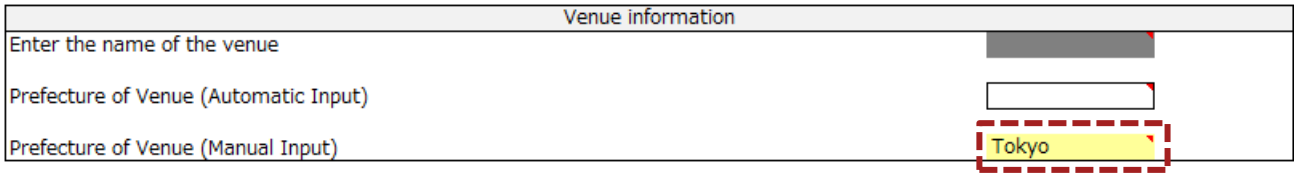


- Step 4-2 Only for Excel 2016 or a later version and online environment
  - Click the link in the ‘Confirmation of venue’ to check that it has been entered correctly, then go to Step 6.
  - The name of the prefecture is automatically entered based on the input of the name of venue.
  - If you clicked/checked the link and found that it is different from the name of the venue you entered, go to Step 5 without entering the name of the venue.

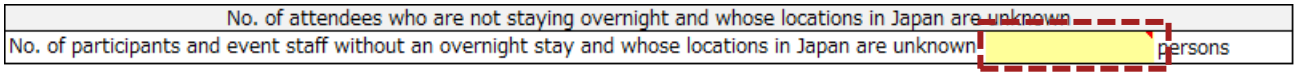


Transport to venue

- Step 5
  - Select the prefecture of venue.
  - ※The location of the prefecture of the venue is automatically set.

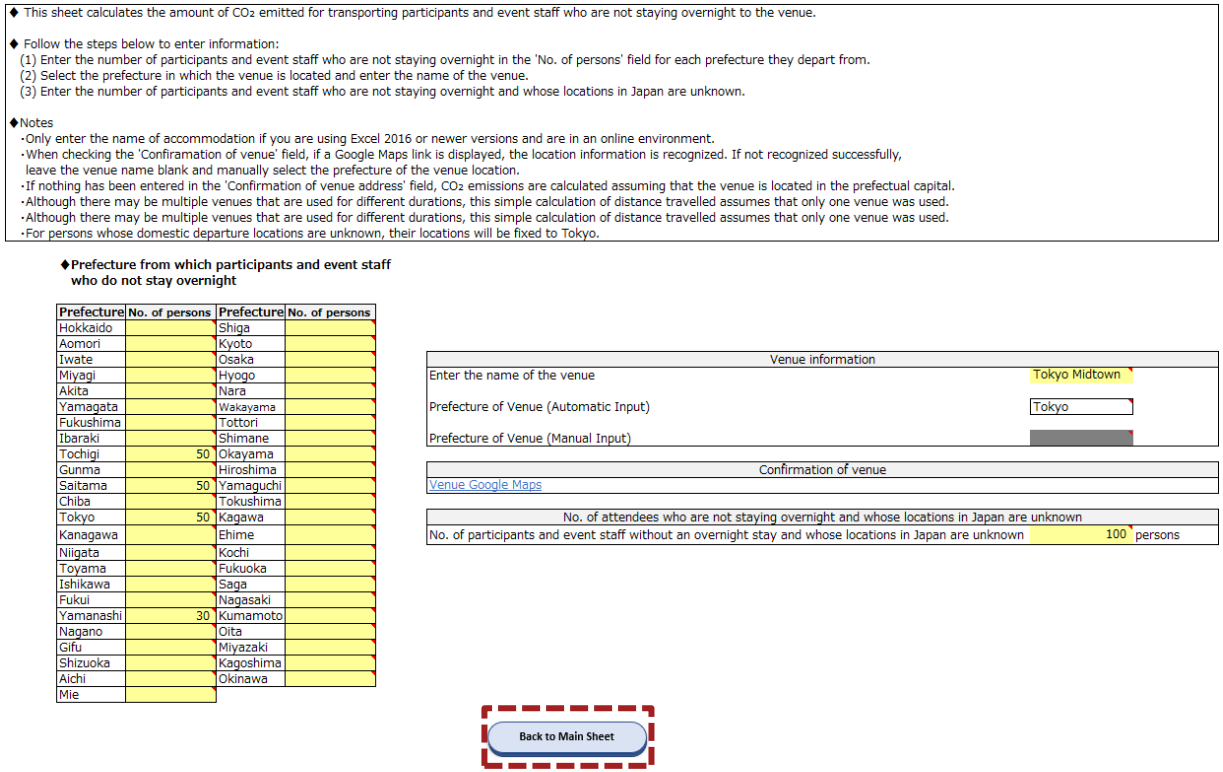


- Step 6
  - Fill in the yellow cell according to comments.



Transport to venue

- Step 7
  - Finally, make sure that the yellow cells are properly filled in.
  - Press the 'Back to Main sheet' button to move to the Main sheet.



◆ This sheet calculates the amount of CO_2 emitted for transporting participants and event staff who are not staying overnight to the venue.

◆ Follow the steps below to enter information:
(1) Enter the number of participants and event staff who are not staying overnight in the 'No. of persons' field for each prefecture they depart from.
(2) Select the prefecture in which the venue is located and enter the name of the venue.
(3) Enter the number of participants and event staff who are not staying overnight and whose locations in Japan are unknown.

◆Notes
・Only enter the name of accommodation if you are using Excel 2016 or newer versions and are in an online environment.
・When checking the 'Confiramation of venue' field, if a Google Maps link is displayed, the location information is recognized. If not recognized successfully, leave the venue name blank and manually select the prefecture of the venue location.
・If nothing has been entered in the 'Confirmation of venue address' field, CO_2 emissions are calculated assuming that the venue is located in the prefectual capital.
・Although there may be multiple venues that are used for different durations, this simple calculation of distance travelled assumes that only one venue was used.
・Although there may be multiple venues that are used for different durations, this simple calculation of distance travelled assumes that only one venue was used.
・For persons whose domestic departure locations are unknown, their locations will be fixed to Tokyo.

◆Prefecture from which participants and event staff who do not stay overnight

Prefecture	No. of persons	Prefecture	No. of persons
Hokkaido		Shiga	
Aomori		Kyoto	
Iwate		Osaka	
Miyagi		Hyogo	
Akita		Nara	
Yamagata		Wakayama	
Fukushima		Tottori	
Ibaraki		Shimane	
Tochigi	50	Okayama	
Gunma		Hiroshima	
Saitama	50	Yamaguchi	
Chiba		Tokushima	
Tokyo	50	Kagawa	
Kanagawa		Ehime	
Niigata		Kochi	
Toyama		Fukuoka	
Ishikawa		Saga	
Fukui		Nagasaki	
Yamanashi	30	Kumamoto	
Nagano		Oita	
Gifu		Miyazaki	
Shizuoka		Kagoshima	
Aichi		Okinawa	
Mie			

Venue information	
Enter the name of the venue	Tokyo Midtown
Prefecture of Venue (Automatic Input)	Tokyo
Prefecture of Venue (Manual Input)	

Confirmation of venue
Venue Google Maps

No. of attendees who are not staying overnight and whose locations in Japan are unknown	
No. of participants and event staff without an overnight stay and whose locations in Japan are unknown	100 persons

Back to Main Sheet

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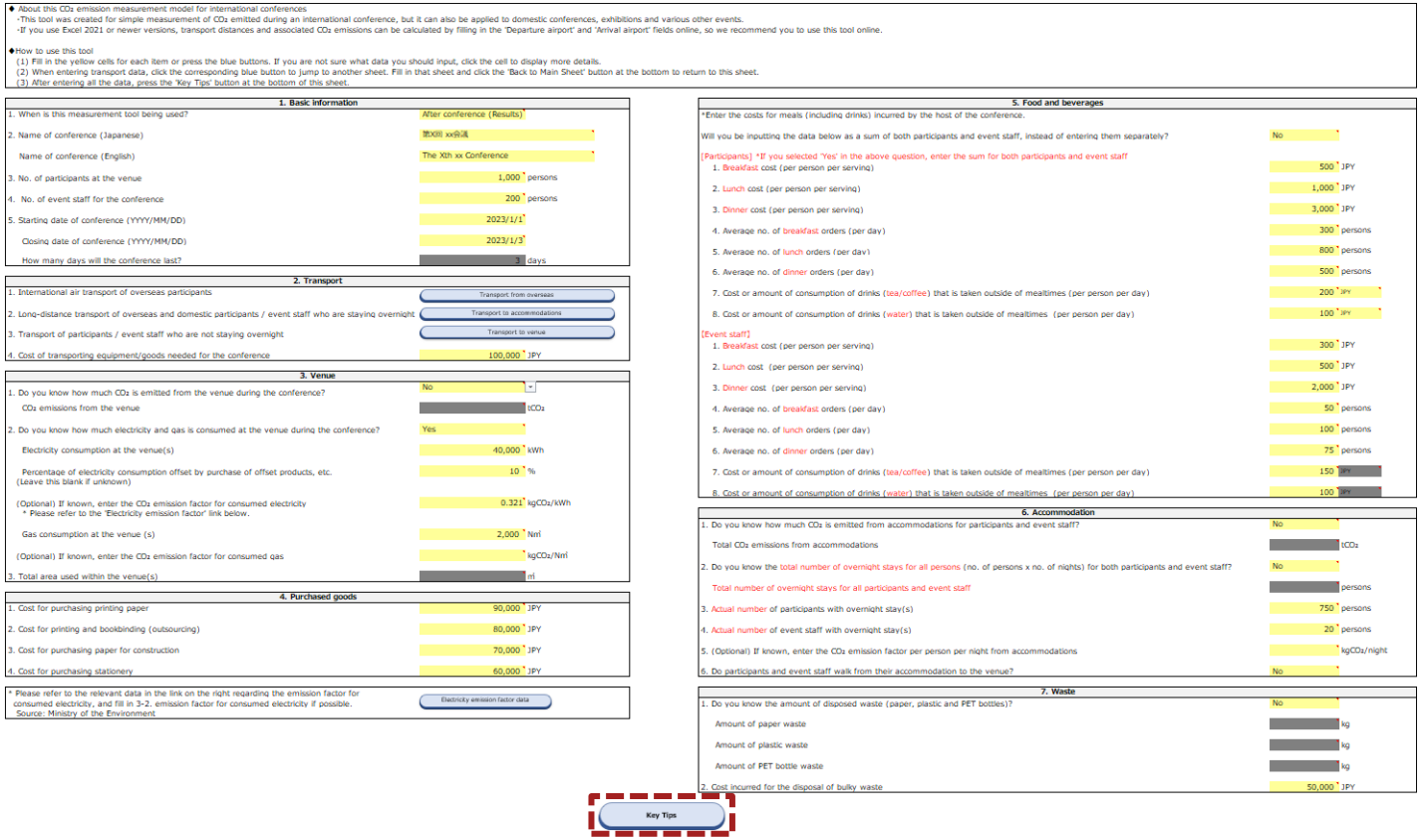
Key tips

- Step 1
  - Press the 'Key tips' button at the bottom of the table in the Main sheet.



Key tips

- Step 2
  - For each item, please read the check items and tick the box ☐ for the items you plan to improve or feel you could make improvement for the conference.

Category	Item	Subitem	Check box	Check items	Key tips
1. Transport	Transport of people		☐	The use of public transport is/was recommended	Encourage everyone to use public transport. CO_2 emissions can be further reduced by using trains instead of cars or charter buses.
			☐	The venue is/was located within walking distance from accommodations	Recommend accommodations located within walking distance of the venue. If that is not possible, recommend nearby accommodations that are accessible with public transport.
	Transport of goods by freight		☐	Equipment and rental goods are/were procured locally as much as possible	Transporting equipment/rental goods also generates CO_2. Make the transport distance as short as possible.
			☐	Environment-friendly transport method is/was prioritised when selecting a transport company	There are transport companies that are conscious of environmental impact. Make sure to consider mode of transportation when selecting a transport company.
2. Venue	Venue	Electricity	☐	The venue uses/used LED lighting	Look for a venue that uses LED lighting. Compared to fluorescent and incandescent lamps, LEDs consume less power.
			☐	The venue's lighting is/was of appropriate brightness and not excessively bright	Check in advance the brightness required for holding a conference and ensure only to turn on lights that are necessary and adjust their brightness.
			☐	The air conditioner temperature is/was set to 20°C or lower in winter and 28°C or higher in summer	Set the air conditioner's temperature so that energy is saved as much as possible. Changing the air conditioner's setting by 1℃ can save 10% to 13% of electricity.
		Gas	☐	The venue uses/used energy-efficient equipment	When selecting the venue, check beforehand if the equipment used in the venue is new and energy-efficient.
			☐	The use of cold water instead of hot water is/was recommended in restrooms, etc.	To reduce gas consumption, encourage using water instead of heated water if possible.
			☐	Cooking and heating is/was all done at the same time	Plan a schedule so that cooking and heating can all be done at the same time.

Key tips

- Step 3
  - Press ‘Back to Main Sheet’ to go back to the Main sheet.
  - Press ‘Go to Calculation Results’ to go to calculation results.

4. Accommodation	☑	An accommodation that is conscious of environmental impact and is energy/resource efficient is/was selected	Recommend accommodations using renewable energy, environmentally friendly cleaning products and amenities, etc.
5. Waste	☐	Only essential goods is/was purchased to reduce waste	Purchase only essentials to reduce waste.
	☑	Recycling bins are/were installed for proper waste sorting	Promote recycling by sorting waste.
	☐	Waste bins has/had English signs or icons on them for non-Japanese speakers to understand them easily	Ensure waste bins have signs that are easy for non-Japanese speakers to understand to encourage proper waste sorting.

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Calculation results

- Step 1
  - Check the total emissions, per-capita emissions, and calculations of each item etc.
  - The figures in the red boxes represent the sub-total of each item and its share of total emissions.

CO_2 Emission Measurement Model (Ver.1) Calculation Results (After conference (Results))

第X回 xx会議
The Xth xx Conference

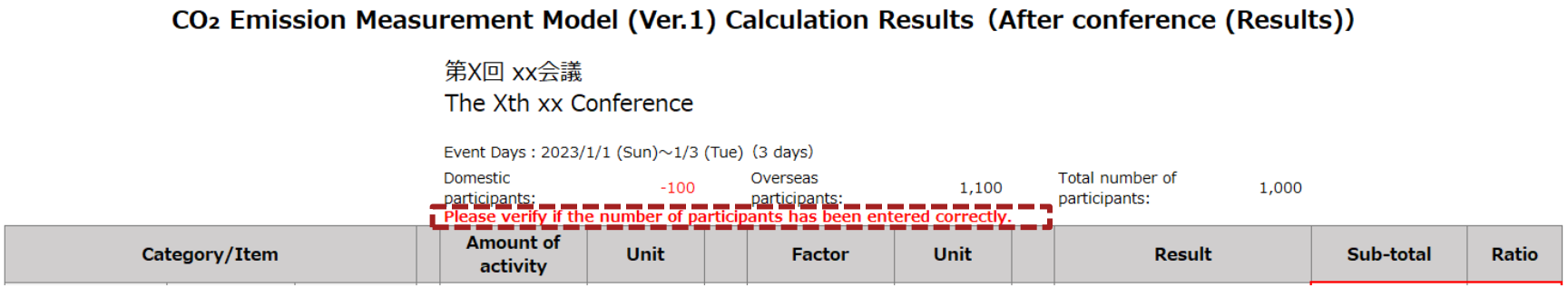
Event Days : 2023/1/1 (Sun)~1/3 (Tue) (3 days)
Domestic participants: 500 Overseas participants: 500 Total number of participants: 1,000

Category/Item				Amount of activity	Unit		Factor	Unit		Result		Sub-total	Ratio
1. Transport	Transport of people	From overseas to Japanese airport	=	8,538,611.0	passenger-kilometre (pkm)	×	0.083	$kgCO_2$/pkm	=	708.7	tCO_2	744.2 tCO_2	85.66%
		To accommodation	=	Calculated based on data in the Domestic long-distance sheet					=	28.2	tCO_2		
		From prefecture to venue	=	Calculated based on data in the Domestic short-distance sheet					=	7.1	tCO_2		
	Transport of goods by freight		=	100,000	JPY	×	0.00177	$kgCO_2$/JPY	=	0.2	tCO_2		
2. Venue	Venue	Electricity	=	36,000	kWh	×	0.321	$kgCO_2$/kWh	=	11.6	tCO_2	18.1 tCO_2	2.08%
		Gas	=	2,000	N㎥	×	2.23	$kgCO_2$/N㎥	=	4.5	tCO_2		
		Estimate based on area used	=	0	Day･㎡	x	0.23	$kgCO_2$/day･㎡	=	0.0	tCO_2		
		Venue (already input)	=	Already input in the Data input sheets					=	0.0	tCO_2		
	Purchased goods	Printing paper	=	90,000	JPY	×	0.01059	$kgCO_2$/JPY	=	1.0	tCO_2		
		Printing & bookbinding (outsourcing)	=	80,000	JPY	×	0.00300	$kgCO_2$/JPY	=	0.2	tCO_2		
		Construction paper, etc.	=	70,000	JPY	×	0.01074	$kgCO_2$/JPY	=	0.8	tCO_2		
		Stationery	=	60,000	JPY	×	0.00221	$kgCO_2$/JPY	=	0.1	tCO_2		
3. Food and beverages	Meals		=	7,995,000	JPY	×	0.00281	$kgCO_2$/JPY	=	22.5	tCO_2	25.4 tCO_2	2.93%
	Drinks outside of mealtimes (tea, coffee)		=	690,000	JPY	×	0.00289	$kgCO_2$/JPY	=	2.0	tCO_2		
	Drinks outside of mealtimes (water)		=	360,000	JPY	×	0.00265	$kgCO_2$/JPY	=	1.0	tCO_2		
4. Accommodation			=	2310	night(s)	×	35.1	$kgCO_2$/night	=	81.1	tCO_2	81.1 tCO_2	9.33%
			=	Already input in the Data input sheets					=	0.0	tCO_2		
5. Waste	Paper waste		=	0	kg	×	0.144	$kgCO_2$/kg	=	0.0	tCO_2	0.2 tCO_2	0.02%
	Plastic waste		=	0	kg	×	0.2816	$kgCO_2$/kg	=	0.0	tCO_2		
	PET bottle waste		=	0	kg	×	0.2277	$kgCO_2$/kg	=	0.0	tCO_2		
	Overall		=	50000	JPY	×	0.00352	$kgCO_2$/JPY	=	0.2	tCO_2		
Total												**868.8** tCO_2	100.00%

Per capita emissions	**724.0** $kgCO_2$

Calculation results

- Step 2
  - If there is an error in the information entered and either 'Domestic participants', 'Overseas participants' or 'Total number of participants' becomes a negative number, a warning message will be displayed.
  - Please check the entries in '③ No. of participants at the venue' in '1. Basic information' in 'A1. Main sheet' and 'No. of participants/No. of event staff' in 'A2. International transport' and correct them as needed.



CO_2 Emission Measurement Model (Ver.1) Calculation Results (After conference (Results))

第X回 xx会議
The Xth xx Conference

Event Days : 2023/1/1 (Sun)～1/3 (Tue) (3 days)

Domestic participants: -100 Overseas participants: 1,100 Total number of participants: 1,000

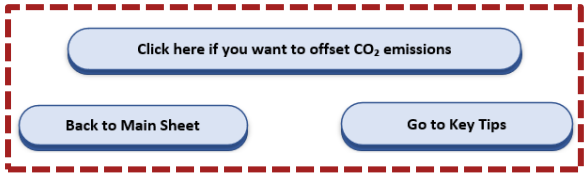
Please verify if the number of participants has been entered correctly.

Category/Item	Amount of activity	Unit		Factor	Unit		Result	Sub-total	Ratio

Calculation results

- Step 3
  - Check that ‘Key measures to take (or taken)’ are displayed in darker black letters.
  - (For an online environment) If you are considering purchasing offset products, press the ‘Click here if you want to offset CO_2 emissions’ button at the bottom of the table. This will take you to the J-Credit Scheme website.
  - Press ‘Back to Main Sheet’ to go back to Main Sheet.
  - Press ‘Go to Key Tips’ to go back to Key Tips.
  - If you want to print Calculation results sheet, press ‘File’⇒’Printing’ or Press ‘Ctrl+P’ on keyboards.

Key measures to take (or taken)			
Transportation	Use of public transportation services	Walking from the accommodation to the venue	Purchasing/renting equipment and goods near the venue
	Use of environmentally friendly transport service providers		
Venue	LED lighting	Appropriate brightness	Appropriate temperature settings
	Energy-efficient gas	Minimal heating of water	Cooking and heating all at the same time
	Use of eco-friendly paper	Black-and-white printing	Digitisation of handouts/displays
	Non-distribution of promotional items		
Food and beverages	Meals centred on fish and vegetables	Local production and consumption	Reusable containers and cutlery
	Less individual packaging	Drinks in recyclable containers (when purchasing)	Drinks in reusable containers (when serving)
	Water dispenser		
Accommodation	Environmentally friendly accommodation		
Waste	Minimal purchases	Separate waste bins for sorting out waste	Easy to understand signs on waste bins for non-Japanese speakers



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Contributors (in the order of the Japanese syllabary)

- KUDO Hiroki (Board Member, Director, in charge of Electric Power Industry Unit, The Institute of Energy Economics, Japan)
- NAKATANI Jun (Assistant Professor, Graduate School of Engineering, The University of Tokyo)
- NISHIMOTO Keiko (Professor, Tourism Management, Ritsumeikan University Graduate School of Management)
- HASHIMOTO Seiji (Professor, Department of Civil and Environmental Engineering, College of Science and Engineering at Ritsumeikan University)
- HONDO Hiroki (Professor, Researcher at Yokohama National University Graduate School of Environment and Information Sciences)
- MATSUBAE Kazuyo (Professor, Department of Environmental Studies for Advanced Society, Tohoku University Graduate School of Environmental Studies)
- Congrès Inc.
- Japan Convention Services, Inc.

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Calculation basis 1/14

- **Transport of people (from overseas to Japanese airport)**
  - We used the emission intensity of 'Passenger aircraft (international)' listed in '[10] emission intensity per passenger kilometer <Secretariat>' in the 'database for calculating an organization's greenhouse gas emissions through its supply chain (ver. 2.5)'.
  - The calculation of travel distance only includes transport using aircraft and is based on the latitude and longitude of the locations entered.
  - The latitude and longitude are set in one of the two ways as below.
    1. If you know the departure/arrival airports
       - ✓ The latitude and longitude of the airports are applied.
    2. If you don't know the departure/arrival airports
       - ✓ The latitude and longitude of the capital city of the departure country/region and Japan are applied.
  - CO_2 emissions for transport from overseas to Japanese airport are calculated using the following calculation formula.

$$\sum_{n}\{\text{Travel distance x (No. of persons} - \text{No. of persons offset) x 2 x 0.083 kg}CO_2/\text{pkm})\},\ n = \text{No. of routes}$$

Calculation basis 2/14

- **Transport of people (to accommodation)**
  - We used the emission intensity of 'Passenger aircraft (domestic)/Passenger railways/Passenger ships/ Automobiles (private passenger cars)' listed in '[10] emission intensity per passenger kilometer <Secretariat>' in the 'database for calculating an organization's greenhouse gas emissions through its supply chain (ver. 2.5)'.
  - The percentage of each transportation method used for travel between prefectures is set as the following two patterns.
    1. Interregional* travel
       - ✓ Calculated based on the volume of interregional travel per transportation mode listed on '(1) Chart of travel data between prefectures by main transportation modes (annual): from departure point to destination' in the '2015 Interregional Travel Survey in Japan'
    2. Travel within a region
       - ✓ Adopted the 'traffic share rate up to 100km' listed in the 'percentage per distance/representative mode of transportation for traveling beyond the daily living area' in the 'White Paper on Transport Policy 2021'
  - The distance to the place of accommodation in Japan is calculated using the latitude and longitude of the accommodation facility and the capital of each prefecture.
  - CO_2 emissions for transportation to the place of accommodation are calculated using the following calculation formula.

$$\sum_{n}\sum_{m}\{\text{Travel distance (km) x No. of persons x 2 x Percentage of each transport method used per prefecture} \text{ x Emission factor for each transportation method (kg}CO_2\text{/km)}\},$$

$$n = \text{No. of prefectures},\ m = \text{No. of transportation methods (5 methods)}$$

Defined based on the 50 prefecture zones of the "National trunk line passenger net flow survey" (source: Ministry of Land, Infrastructure, Transport and Tourism) (Northern Hokkaido, Eastern Hokkaido, Central Hokkaido, and Southern Hokkaido are combined into one as Hokkaido)

Calculation basis 3/14

- **Transport of people (Domestic travel from the prefecture of location to the venue)**
  - Emission intensity and the percentage of each transportation method used are the same as for transportation method described in the previous slide (transportation to accommodation).
  - The travel distance is calculated using one of the following two methods.
    1. Overseas participants and domestic participants/event staff who are staying overnight
       - ✓ Calculated using the latitude and distance between the accommodation and the venue
    2. Domestic participants/event staff who are not staying overnight
       - ✓ Calculated using the latitude and longitude of the venue and the capital of the prefecture where they are staying
  - CO_2 emissions for transport from prefecture to venue are calculated using the following calculation formula.

$$\sum_{n}\sum_{m}\{Travel\ distance(\mathrm{km}) \times no\ of\ persons \times 2 \times \%\ of\ each\ transport\ method\ used\ per\ prefecure \times Emission\ factor\ for\ each\ transportaiton\ method(\mathrm{kgCO_2/km}) \times Duratation\ of\ conference\}$$

n = No. of prefectures, m = No. of transportation methods (5 methods)

Calculation basis 4/14

- **Transport of goods by freight**
  - This is calculated in accordance with the "'substance name' emission intensity (I-A)-1 type' of Consumer's price" in 'Embodied Energy and Emission Intensity Data for Japan Using Input-Output Tables (3EID)'. We used the emission intensity of the 'freight forwarding business' sector, and calculated CO_2 emissions generated by transporting goods to venues.
  - CO_2 emissions for transport of goods by freight are calculated using the following calculation formula.

    Total cost (JPY) x 0.00177 kgCO_2/JPY

Calculation basis 5/14

- **Venue (Electricity)**
  - We used the emission intensity of the ‘alternative value’ for ‘Emission factors by electric utility operators (for calculation of greenhouse gas emissions of specified emitters)-FY21 Results’.
  - Total emissions at the venue (electricity, gas, etc.) are entered by a user, or electricity CO_2 emissions are calculated using the following calculation formula.

Total usage (kWh) x (1 – offset rate) x factor entered by user ($kgCO_2/kWh$) or 0.441 $kgCO_2/kWh$

- **Venue (Gas)**
  - We used the emission intensity for ‘city gas’ specified in ‘emission factors on fuel usage’ in the ‘list of calculation formulas and emission factors of the GHG Emissions Accounting, Reporting and Disclosure System’.
  - City gas CO_2 emissions are calculated using the following calculation formula.

Total usage (Nm^3) x factor entered by user or 2.23 $kgCO_2/Nm^3$

Calculation basis 6/14

- **Venue (Estimate based on area used)**
  - We used the emission intensity of ‘other services (total/representative value)’ listed in ‘[16] emission intensity per type of building use/unit area <Secretariat>’ in the ‘Database for calculating an organization's greenhouse gas emissions through its supply chain (ver. 3.3)’.
  - Area-based CO_2 emissions are calculated using the following calculation formula.

Total area (m^2) x 0.084 tCO_2/m^2・year x 1/365 x Duration of conference in days

Calculation basis 7/14

- **Venue (Printing paper)**
  - This is calculated in accordance with the "'substance name' emission intensity (I-A)-1 type of Consumer's price" in 'Embodied Energy and Emission Intensity Data for Japan Using Input-Output Tables (3EID)'. We used the emission intensity of 'Foreign paper/Japanese paper' sector considering the category applicable to printing papers purchased for international conferences. The calculation includes the cost of newly purchased items for the conference only.
  - CO_2 emissions from printing paper are calculated using the following calculation formula.

    Total cost of printing paper (JPY) x 0.01059 kgCO_2/JPY

- **Venue (Printing & Bookbinding)**
  - This is calculated in accordance with the "'substance name' emission intensity (I-A)-1 type of Consumer's price" in 'Embodied Energy and Emission Intensity Data for Japan Using Input-Output Tables (3EID) 2015'. It includes both printing and paper costs for printed materials outsourced for international conferences. We used the emission intensity of the 'printing, platemaking and binding' sector.
  - CO_2 emissions from printing & bookbinding are calculated using the following calculation formula.

    Total cost of outsourced printing & bookbinding (JPY) x 0.00300 kgCO_2/JPY

Calculation basis 8/14

- **Venue (Papers used in construction, etc.)**
  - This is calculated in accordance with the "'substance name' emission intensity (I-A)-1 type of Consumer's price" in 'Embodied Energy and Emission Intensity Data for Japan Using Input-Output Tables (3EID) 2015'. Taking into account the paper used for construction, etc. of international conferences, we used the emission intensity of the paperboard category. The calculation includes the cost of newly purchased items for the conference only.
  - CO_2 emissions from poster papers used for construction, etc. are calculated using the following calculation formula.

    Total cost of poster papers for construction, etc. (JPY) x 0.01074 kgCO_2/JPY

- **Venue (Stationery)**
  - This is calculated in accordance with the "'substance name' emission intensity (I-A)-1 type of Consumer's price" in 'Embodied Energy and Emission Intensity Data for Japan Using Input-Output Tables (3EID) 2015', using the emission intensity of 'writing instruments/stationary' category. The calculation includes the cost of newly purchased items for the conference only.
  - CO_2 emissions from writing instruments and stationery are calculated using the following calculation formula.

    Total cost of writing instruments and stationery (JPY) x 0.00221 kgCO_2/JPY

Calculation basis 9/14

- **Meals**
  - This is calculated in accordance with the "'substance name' emission intensity (I-A)-1 type of Consumer's price" in 'Embodied Energy and Emission Intensity Data for Japan Using Input-Output Tables (3EID) 2015'. Considering that at international conferences, meals are generally taken at the venue or at the accommodation, we used the emission intensity for the 'restaurants' category.
  - A budget for meals is calculated based on breakfast/lunch/dinner cost per person per day from the estimation stage, considering the ease of input. Note that meals taken at hotels, such as breakfast, are included in the accommodation data.
  - CO_2 emissions from meals are calculated using the following calculation formula.

    (Breakfast cost/person/day x No. of breakfast orders + Lunch cost/person/day x No. of lunch orders + Dinner cost/person/day x No. of dinner orders) x Duration of conference in days x 0.00281 kgCO_2/JPY

Calculation basis 10/14

- **Meals (tea, coffee)**
  - This is calculated in accordance with the "'substance name' emission intensity (I-A) -1 type of Consumer's price" in 'Embodied Energy and Emission Intensity Data for Japan Using Input-Output Tables (3EID) 2015', using the emission intensity of 'tea/coffee' category.
  - For the calculation of the price per liter, we took the average of the 'retail prices by cities' of 'tea' and 'coffee' listed in 'Retail prices of major items by cities [Apr. 2023]' in the 'Retail Price Survey (Trend Survey)'and performed calculations per liter (Tea: JPY 164/L, Coffee: JPY 136/L). We used the average of both (JPY 150/L).
  - CO_2 emissions in terms of physical unit can also be obtained by multiplying the cost per liter by a JPY-based CO_2 emission factor. Note that drinks taken during mealtimes are not included in this calculation.
  - CO_2 emissions from drinks outside of mealtimes (tea, coffee) are calculated using either of the following JPY-based/liter-based calculation formulas.

・(Cost/person/day) x No. of persons x Duration of conference in days x 0.00289 $kgCO_2/JPY$

・(Consumed amount/person/day) x No. of persons x Duration of conference in days x 0.434 $kgCO_2/L$ (150JPY/L x 0.00289 $kgCO_2/JPY$)

  - Since costs will vary per facility, we recommend that you enter the amount of consumption (L) for more accurate calculations.

Calculation basis 11/14

- **Meals (water)**
  - This is calculated in accordance with the "'substance name' emission intensity (I-A)-1 type of Consumer's price" in 'Embodied Energy and Emission Intensity Data for Japan Using Input-Output Tables (3EID) 2015', using the emission intensity of 'soft drinks' category including mineral water.
  - For the calculation of the price per liter, we took the average of the 'retail prices by cities' of 'mineral water' listed in 'Retail prices of major items by cities [Apr. 2023]' in the 'Retail Price Survey (Trend Survey)' and calculated per liter (JPY 56.6/L).
  - It can also be calculated in physical units by multiplying the price per liter by the emission factor in yen. Note that drinks consumed during mealtime are not included.
  - CO_2 emissions from drinks (water) outside of mealtimes are calculated using either of the following JPY-based/liter-based calculation formulas.

・(Cost/person/day) x No. of persons x Duration of conference in days x 0.00265 $kgCO_2/JPY$

・(Consumed amount/person/day) x No. of persons x Duration of conference in days x 0.150 $kgCO_2/L$ (56.5JPY/L x 0.00265 $kgCO_2/JPY$)

  - Since costs will vary per facility, we recommend that you enter the amount of consumption (L) for more accurate calculations.

Calculation basis 12/14

- **Accommodation**
  - This is calculated in accordance with the "'substance name' emission intensity (I-A) -1 type of Consumer's price" in 'Embodied Energy and Emission Intensity Data for Japan Using Input-Output Tables (3EID) 2015', using the emission intensity of 'lodging business' category.
  - For the calculation of the number of guests staying overnight, we used the total number of guests staying overnight, or the number of conference days multiplied by the number of guests to be accommodated.
  - For the calculation of an accommodation fee per night, we used the average price of the national accommodation price listed in 'Percentage increase in the cost of accommodation in all the prefectures' published by the Japan Tourism Agency on 18 April 2019.
  - CO_2 emissions from accommodation are entered by a user or calculated using the following calculation formula.

Total no. of guests x Duration of conference in days x emission factor entered by user ($kgCO_2$/night) or (0.00302 $kgCO_2$/JPY x JPY11,605/night)

Calculation basis 13/14

- **Waste (Paper waste)**
  - We used the emission intensity of ‘paper/cardboard’ listed on the the table for ‘Fossil-fuel derived CO_2 emission factors for MSW* incineration (dry basis)’ in the ‘National Greenhouse Gas Inventory Report of Japan (NIR) April 2023’.
  - * MSW: Municipal solid waste
  - CO_2 emissions from paper waste are calculated using the following calculation formula.

    Amount of paper waste (kg) x 0.144 kgCO_2/kg

- **Waste (Plastic waste)**
  - We used the emission intensity of ‘plastics’ listed on the table for ‘Fossil-fuel derived CO_2 emission factors for MSW incineration (dry basis)’ in the ‘NIR April 2023’.
  - CO_2 emissions from plastic waste are calculated using the following calculation formula.

    Amount of plastic waste (kg) x 0.2816 kgCO_2/kg

Calculation basis 14/14

- **Waste (PET bottle waste)**
  - We used the emission intensity of ‘PET bottle’ listed on the the table for ‘Fossil-fuel derived CO_2 emission factors for MSW incineration (dry basis)’ in the ‘National Greenhouse Gas Inventory Report of Japan (NIR) April 2023’.
  - CO_2 emissions from PET bottle waste are calculated using the following calculation formula.

    PET bottle waste amount (kg) x 0.2816 kgCO_2/kg

- **Waste (Total waste)**
  - We used the “‘substance name’ emission intensity (I-A)-1 type of Consumer’s price” in ‘Embodied Energy and Emission Intensity Data for Japan Using Input-Output Tables (3EID) 2015’, using the emission intensity of ‘waste disposal’ category.
  - CO_2 emissions from (total) waste are calculated using the following calculation formula.

    Total waste disposal cost (JPY) x 0.00352 kgCO_2/JPY